PALESTINE EXPLORATION QUARTERLY

Embodying the *Quarterly Statement* of the Palestine Exploration Fund and the *Bulletin* of the British School of Archaeology in Jerusalem

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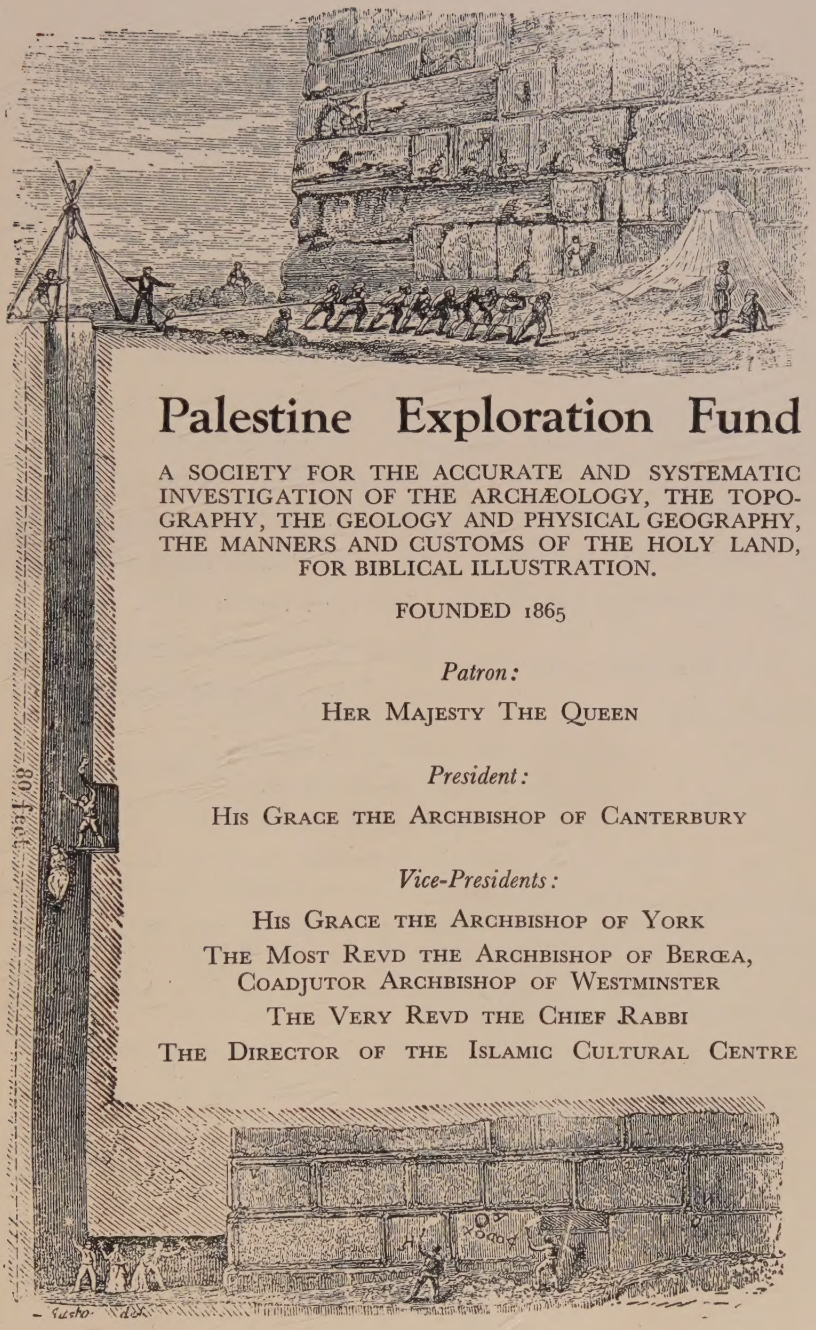

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THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS

The Palestine Exploration Fund has suffered a heavy loss by the death of Dr. J. W. Crowfoot on 6th December last, at the advanced age of eighty-six. After twelve years' distinguished service as Principal of Gordon College, Khartoum, and Director of Education to the Sudan Government, Dr. Crowfoot was appointed in 1926 Director of the British School of Archaeology in Jerusalem. In this capacity he engaged in archaeological work both west and east of the Jordan, including the well-known excavations at Samaria, Jerash and Bosra. In addition to serving the Palestine Exploration Fund as its Chairman from 1945 to 1950, he was British Academy Schweich Lecturer in 1937, and Vice-President of the Society of Antiquaries from 1941 to 1945. A fuller appreciation will appear in a later issue of the *Quarterly*.

The thirty-sixth volume of *Syria* (1959) contains a memorial appreciation of René Dussaud, who died on March 17, 1958, in his ninetieth year. M. Henri Seyrig, who writes the appreciation, points out that this is the first volume of *Syria* since its inception which does not bear the name of René Dussaud as one of its directors. Dussaud was a pupil of Clermont-Ganneau, whose place he took in 1923 as a member of the Académie des Inscriptions. Tribute is paid to the great services which he rendered to Near Eastern archaeology not only by his scholarly and scientific work but also by the strength of his personality and power of his example. " Great worker as he was, no one was more prodigal of his time when it was a question of helping those who relied upon him; neither the French missions which worked in the East nor the Service des Antiquités could have prosecuted their task as they did, if René Dussaud had not always been ready to take those steps in Paris which were necessary to remove obstacles in their way—steps whose success was always ensured by his incontestable authority."

Many readers of the *Quarterly* will have seen accounts in the Press of the Alphabet Museum and Seminar established by Dr. David Diringer, at 50, St. Barnabas Road, Cambridge. This is an event in which subscribers to the Palestine Exploration Fund have a special interest, both because of

Dr. Diringer's active association with the Fund and because of the close relation which the early history of the alphabet bears to the archaeology of Palestine.

Alphabetical writing was as important to the origins of our civilization as the wedge and the wheel. The story of its invention and development, and of its relation to other scripts, is one of very great interest.

The museum, formally opened by Mr. I. J. Pitman, M.A., M.P., on June 8, 1959, assembles the results of thirty-five years' research by Dr. Diringer, who is well known for his books on the alphabet and the development of scripts throughout the world. The museum has been built in the garden of his house in Cambridge, and houses a vast collection ingeniously arranged in a compact space. It provides an archive more comprehensive and scientific than any that has been attempted so far; as a "documentary" on the development of script, it is unique in the world.

All of it bears on the history of the alphabet and of all forms of writing. It includes original inscriptions on stone, casts of inscriptions, fragments of manuscripts, photographs of many more, charts and maps, and lantern slides. These numerous examples are drawn from all over the world, from North-East Siberia to Central Africa and Peru, and their age ranges from prehistoric times to the present day. The main interest for European students will be the wealth of material on the development of the Greek and Roman and related alphabets; but Dr. Diringer's collection indicates that these must be seen in their place in the development of writing all over the world.

Hence the visitor first sees a striking wall chart, the "Alphabet Tree," measuring 12 × 12 feet. It shows how some 350 alphabets are interrelated; how some have died and others survived to influence yet others. The chart reveals relationships which the layman would never suspect between scripts widely separated geographically. It shows how the primitive needs of ritual and religion, of trade and ordinary human communication have impelled men in every part of the world, and at all times, to attempt to communicate with each other by written or carved signs.

The building of the museum was helped financially by Mrs. Ruth K. Hanner, a scholar who already has a museum of prehistoric symbols in Hawaii and wished for a European counterpart, where prehistoric symbols and written characters of later ages might be collected and studied.

The Alphabet Museum will be the meeting-place of a seminar or study group, open to members of the University and to scholars everywhere. Facilities for study and research, including a specialist library, will be provided. Dr. Diringer would be very grateful for the co-operation of readers of the *Quarterly* in sending him any material that might bear on the history of writing or the development of any particular script or style; any such material would, of course, be studied as occasion offered.

A report appeared in *The Times*, of October 23, 1959, of a season of excavation at Ramat Rahel, five miles south of Jerusalem, carried out under the direction of Dr. Yohanan Aharoni. Excavations on the site in 1954 revealed three occupation layers, the earliest belonging to the period of the kings of Judah. To this earliest period belongs a citadel, at the south end of which the 1954 excavations brought to light a casemate wall, with two proto-Ionic capitals near it, such as were used at that time for the decoration of royal palaces (to judge by their presence in the Solomonic palace at Megiddo and the Omride palace at Samaria). This year another wall was unearthed on the north side of the citadel, and in it was discovered a secret underground entrance of a type not previously found in Palestine. Between the two walls the floor of a courtyard was uncovered, made of crushed and smoothed limestone. It is hoped next season to excavate a building in the courtyard. From various pieces of evidence, including further fragments of proto-Ionic capitals and many jar-handles bearing seal-impressions of the *lammelekh* (" belonging to the king ") type, it is conjectured that the building in the courtyard may be a royal palace. The question naturally arises of the purpose of a royal palace and citadel in this place, and it has even been asked if this may not be the " several house " in which Uzziah lived during the closing years of his reign, when he was a leper (2 Chron. xxvi, 21). We shall in any case, look forward with great interest to the results of further excavation on this site.

The middle layer has revealed remains of a fairly important settlement from the time of the Second Temple. The settlement was evidently destroyed about A.D. 70, and the presence among the sherds of some tiles with the stamp of the Tenth Legion suggests that the Legion had a post here. In the top layer there are remains of a Byzantine church and monastery, which may give a clue to the site of the Kathisma Church on the way to Bethlehem, mentioned by early Christian writers.

The second number of the *Israel Exploration Journal* for 1959 contains an article by D. H. K. Amiran and N. Kadmon on the national *Atlas of Israel* which is now in course of production. This work will contain about 100 sheets measuring 20 by 28 inches, with a total of over 600 maps. The relatively small area of the land of Israel means that a considerably larger scale can be used than is practicable in most atlases; most of the maps in this work are drawn to scales ranging from 1 : 750,000 to 1 : 2,000,000, while a few are drawn to a scale of 1 : 500,000. The editors have made it a guiding principle to provide time-sequence maps for as many aspects of the geography of Israel as possible—the climatic aspects, for example, as well as human geography. The policy is to publish two folders annually, each containing eight to twelve sheets. Publication started at the end of 1956, and is likely to go on for several years to come. It is evident that this work will be an

indispensable aid to all who are seriously concerned with the business of " Palestine exploration."

In the same number Yohanan Aharoni discusses the site of Zephath (*dft'*), mentioned by Thutmose III in the annals of his first campaign, where he refers to three passes leading from the coastal plain to the plain of Jezreel. Two of these have been satisfactorily identified; the third, " which passes to the north of Zephath ", has remained uncertain, because of the uncertain location of the place called Zephath. Dr. Aharoni now identifies the place with the artificial mound which appears on the P.E.F. map as Khirbet Sitt Leila, which (as is evident from a study of the sherds found there as well as from the size of the tell itself) must have been one of the most important cities of the region. The road which runs to the north of it is " the main road through Wâdi Timsaḥi–Wâdi Milh, which reached the Jezreel Valley near Jokneam, north of Megiddo " (p. 116); Zephath itself, if this identification is right, lay in the Plain of Sharon, near the entrance of the road into the hill country. (The name Zephath is a common one, meaning " look-out ", like Mizpah or Mizpeh, which comes from the same root.)

In the Jordan valley, just across the northern tip of the Dead Sea, a classic excavation has been reopened, under the direction of Father Robert North, S.J. Six kilometres east of the new Hussein Bridge, 100 metres south of the new Amman highway, lies Ghassul, which was a thriving village in 3500 B.C. Brilliant discoveries on the site by Mallon (1929–34) and Koeppel (1936–38) were broken off by the war, and the death of both excavators left important questions unanswered. Father E. Vogt, S.J., Rector of the Pontifical Biblical Institute in Rome, has decided on the resumption of work on the site, and Mr. Awni Dajani, Jordanian Director of Antiquities, has assured the excavators of his approval and support.

Previous excavations were in scattered areas, with no recognizable link between them. An important stratification was essayed in a small sondage of Tulayl 1, with the help of nearby clearance-areas. Then the world-famous frescoes were discovered, and attention shifted to their surroundings in Tulayl 3. The top level there was called Level IV solely because that was the number of the top level in the Tulayl 1 sounding. But it was immediately divided into IVA and IVB, both now agreed to be " Middle " Chalcolithic. The outbreak of war made it impossible at that time to discover whether the stratum beneath IVA was identical with Tulayl 1 Stratum III, or even whether there was any occupation at all beneath Tulayl 3 Stratum IVA. This must now be ascertained.

The 1960 excavation is accordingly to begin with a broad " swathe " of 240 by 20 metres, uniting all three principal fruitful areas into one. Six " Areas " of 40 by 20 metres will be designated A to F. But in them only four rectangles of 5 by 20 metres will be opened at first, chiefly in and near

the 1938 area. In that region it is hoped, following a suggestion of Père de Vaux, to clear a considerable expanse of architectural remains and discover whether Ghassul has any " apse houses " or such features of Metser and related sites. Meanwhile it has been thought logical to *channel* the digging as far as possible within broad lines which *might* conceivably result in a continuous stratification linking Tulaylat 1, 2 and 3. Only when it is possible to assign with precision the relation between all the so-called " Levels " thus far numbered at various places in Ghassul will the striking finds and methodical toil of the former excavators take their deserved place in the history of the Holy Land.

Father North is assisted by Father Henri Senès as surveyor, Brother Antonio Vives as field-supervisor, and Father Louis Hartman as receptionist and registrar. Supervisors recruited in Jerusalem include Mr. Peter J. Parr of the British School and Professor Bess of the American School.

From Mr. Peter Parr comes exciting news of the second season of excavation at Petra. He and his colleagues have continued with their deep soundings, and have also found it possible, with the collaboration of the Jordanian Government, to clear most of the Monumental Gateway and investigate the Roman temple. Some interesting new facts have come to light, and we look forward to reading Mr. Parr's own account of them in the *Quarterly* before long.

A new attempt is being made to locate the former " Cities of the Plain," Sodom and Gomorrah. This time it is hoped that exploration by underwater divers may reveal traces of the cities. Preliminary tests in the southern part of the Dead Sea have been carried out around New Year's Day by an expedition led by Professor Allen Vincent-Barwood of the American University of Beirut, who was trained as a frogman in the Canadian Navy a number of years ago. These tests, it is claimed, have indicated that further exploration in April, when the weather is more favourable, may produce interesting results.

The July 1959 issue of the *Revue Biblique* (Vol. **66**, pp. 321 ff.) contains an article of more than usual interest—" Le rouleau de cuivre de Qumrân (3Q 15)," by J. T. Milik. Hitherto most of us have depended for our knowledge of the contents of the copper inscription from Cave III on the translated fragments released on May 31 1956. Now Father Milik has given us a French translation of the whole document, with topographical notes, very much as translation and notes will appear in Vol. III of the official publication, *Discoveries in the Judaean Desert* (to be published by the Clarendon Press). This publication, of course, will reproduce the Hebrew text itself, and many questions that scholars will want to ask must remain unanswered until the Hebrew text is generally available; but even so we are now able

to see the main drift of the inscription. Apart from questions about the character of the treasure, the most important relate to the location of the sites mentioned. It is on this last subject that Father Milik's notes have most to say. About half the treasure was evidently hidden in Jerusalem, especially in and around the temple precincts; other hiding-places are located in the Jordan Valley, in the wilderness of Judah, and on sacred hills, especially Gerizim. One of the Jerusalem sites is called *Beth-'Eshdathain*, " the house (place) of the two outpourings "—evidently the Bethesda of the New Testament (John v, 2). Bethesda may then be *Beth-'Eshdâ*, " the place of outpouring." The dual form in 3Q 15 agrees with the evidence of Eusebius and the Bordeaux pilgrim, both of whom speak of twin pools at Bethesda. The identification of all the sites mentioned will keep specialists in this field busy for a considerable time to come, and we hope that part of this research will be conducted in the pages of the *Palestine Exploration Quarterly*.

The *Revue de Qumran* for July 1959 contains an article by Professor Bruce M. Metzger of Princeton Theological Seminary on " The Furniture in the Scriptorium at Qumrân " in which he argues that the " writing-table " from Khirbet Qumrân now reconstructed and exhibited in the Palestine Archaeological Museum was probably not a writing-table and that the " bench " which accompanies it is ill-adapted for use as a seat. He adduces evidence from various quarters to show that writers in antiquity did not write on a table or a desk. When they were copying lengthy manuscripts they sat on the ground or a bench supporting the scroll or codex on their knees; when they were making briefer notes, they usually stood and wrote while holding the writing-material in the left hand. If the Qumrân scribes supported their scrolls on their knees, what are we to make of the " writing-table "? Professor Metzger does not deny that it was part of the scriptorium furniture (unlike another scholar, who has argued that it was a Christian communion-table); he suggests, however, that it was a bench, not a table. The framework on which it has been reconstructed, he suggests, gives it a greater height than is warranted; moreover, its surface is slightly concave—an excellent feature in a bench, but not in a writing-table. But if the " writing-table " was really a bench, what of the " bench "? That, says Professor Metzger, " would have been an admirable footrest to enable the scribes to raise their knees higher while writing on them."

The incomplete Isaiah scroll from Cave 1 at Qumrân has in general received less attention than the complete Isaiah scroll which was found in the same cave—partly because the complete scroll hit the headlines first, partly because the incomplete scroll *is* incomplete, and partly because it conforms in general much more closely to the Massoretic text-type than its companion. Yet it is safe to say that if 1QIs^{a} had never been found, 1QIs^{b} would have been acclaimed as a discovery of the first importance, for it has many

features of special interest, over and above its antiquity. Accordingly we welcome a careful study of "The Second Isaiah Scroll from Qumrân (1QIs^b)" contributed by Professor Bleddyn J. Roberts to the *Bulletin of the John Rylands Library* for September, 1959, and obtainable as a separate pamphlet (price 2*s.* 6*d.*) from the Rylands Librarian, Deansgate, Manchester, 3.

The discovery of seven Assyrian reliefs from the age of Sennacherib in the tuck-shop of an English school is one of the most curious incidents of recent archaeological history. They were found in Canford School, Dorset, by Mr. R. D. Barnett of the British Museum, who was stimulated to visit the school by Sir Leonard Woolley. He found them built into the inner wall of the tuck-shop, covered with whitewash and partly hidden by packets of cereals. They were then taken out, cleaned, and offered for sale. There is no great mystery about how they came to be there, when we realize that Canford Manor (as the place was called before it became a school) was at one time the home of Sir John Guest, father-in-law of Sir Austen Henry Layard. What is now the school tuck-shop was once Sir John's private museum, and the seven reliefs were all that remained of his Assyrian collection, the bulk of which was sold about thirty years ago to the New York Metropolitan Museum.

Early in October last an international meeting of archaeologists was held in Cairo, at the invitation of the Egyptian Government and under the auspices of U.N.E.S.C.O., to consider what action to take with regard to the many antiquities which will be submerged when the Aswan High Dam is completed. It is obviously desirable that an intensive programme of excavation, preservation and recording should be carried through while the opportunity lasts. By way of encouragement to archaeological enterprise, the Egyptian Government has announced its willingness to co-operate fully with the bodies which sponsor such work, and to allow them to retain at least half the proceeds of the finds. One notable monument which is certain to suffer by the construction of the High Dam is the great rock-cut temple of Abu Simbel, dating from the Nineteenth Dynasty.

THE CROWN OF JERUSALEM

By The Hon. Sir Steven Runciman[1]

For anyone with a taste for resounding names and titles there is no better reading than an old number of the *Almanach de Gotha*. In the days when kings were really kings and emperors were emperors every self-respecting monarch had a string of titles after his name. The list of kingdoms, duchies and counties claimed, for instance, by the Emperor of Austria reads like an epic poem. But there are confusing elements about that great work. Many of the titles overlap. There was a particular tendency amongst European potentates to call themselves Kings of Jerusalem. To the last the Emperors of Austria and the Kings of Spain were Kings of Jerusalem. If we go further back we find many other claimants. At various times the Kings of France, of Naples and even of England have put in a claim for it. The Duke of Savoy had a rather good claim, though he usually contented himself with the more modest title of King of Cyprus, which his heir, the ex-King of Italy, bears to this day. There are other claimants among various houses of the European nobility. Indeed, the throne of Jerusalem has so many candidates queuing up to sit on it that it is as well that it does not exist.

I want this afternoon to trace briefly the history of this curious kingship. I must ask you to bear with me through a certain tangle of legal, constitutional and genealogical details, in an attempt to illustrate not only the changing mediaeval conceptions of monarchy but also the peculiar position that the Holy City held in the mediaeval mind.

I trust that no one has come here in the hope of hearing about the actual regalia of Jerusalem. We know practically nothing about that. There was certainly an orb with a cross on it and a sceptre tipped with a cross. The crown itself, as worn by the first two mediaeval kings, seems, from pictures on their seals, to have been an open circlet with four points rising from it; but we do not even know whether it was of gold or some other metal. Later a cap of state seems to have been added, held in place by two cross-bands. This crown was kept in the Treasury of the Church of the Holy Sepulchre, in a casket with three locks. One key was kept by the Patriarch of Jerusalem, one by the Grand Master of the Order of the Hospital and one by the Grand Master of the Order of the Temple. This crown was presumably lost when

[1] Paper read at the Annual General Meeting of the Palestine Exploration Fund, July 2, 1959.

Saladin entered Jerusalem in 1187. New crowns were apparently made for the coronation of Queen Isabella and her husband, King Amalric of Cyprus, in 1198. They seem to have been of much the same design. When the Emperor Frederick II crowned himself, illegally, in Jerusalem in 1229, he had a crown specially made for the occasion, presumably because he could not get access to the proper crown, which was kept in the Treasury of the Cathedral of Tyre, the scene of coronations after Jerusalem was lost to the Kingdom. The legal crown was probably removed by King Hugh when he retired in a temper to his other kingdom of Cyprus in 1276, but was returned for the coronation of his son and heir eight years later. We do not know if it survived the final extinction of the kingdom in 1291, but it was probably rescued. For some generations the Kings of Cyprus, who were also legally Kings of Jerusalem, would go, after their Cypriot coronation at Nicosia, to Famagusta to be crowned there as Kings of Jerusalem, apparently with the same crown. This was discontinued after the Genoese captured Famagusta in 1373. They must have captured the crown with the city.

The vagaries of the crown are paralleled in the story of the monarchy that it symbolized. When the children of Israel demanded a king against the wishes of the Lord, the prophet Samuel warned them eloquently that no good would come of monarchy in the Holy Land. His words were often remembered but seldom digested. Many centuries after the Kings of Israel and Judah had disappeared, the problem of kingship arose again, when the knights of the First Crusade captured Jerusalem in A.D. 1099; and Samuel was once again justified.

The First Crusade was launched by the Papacy. It was Pope Urban II's stirring speech at Clermont in 1095 which sent so many men, and women too, marching across Europe and Western Asia to liberate the Holy City. The Pope had envisaged an armed pilgrimage, which would not only bring aid to the Christians of the East, whose existence was endangered by the Turkish invasions, but would also reopen the pilgrim-routes to Palestine, which the chaos caused by the invasions had virtually closed. He did not at first contemplate permanent establishments in Palestine. But many of the princes and knights who answered the papal appeal definitely intended to remain in the East, and to secure themselves lands there. Indeed, that seemed the most practical way of ensuring that the purposes of the Crusade should endure.

None of the monarchs of Europe answered the Pope's call; and of the princes who brought armies to the Crusade none was obviously superior to the others. There was no one leader of the movement, except for the Papal Legate, whose authority was only moral. When one of the soldiers was asked by Christ in a vision who was in command of the army, he replied that there was no one commander, but the highest authority was given to a bishop. Unfortunately the Legate, Adhemar of Le Puy, died while the Crusade was still at Antioch, on the way to Jerusalem. Three of the leading

princes were known to wish to stay in the East. Of these, Bohemond, the Norman from Southern Italy, intrigued himself into the possession of Antioch and did not continue with the army to Jerusalem. When Jerusalem itself was captured, in July, 1099, there were two jealous princes each hoping to govern the new state that was to be founded.

Raymond of Saint-Gilles, Count of Toulouse, was the oldest and the richest of the princes. He had the largest army with him; and he alone knew the Pope personally and had discussed the Crusade with him. He was an experienced administrator and far more tolerant than his colleagues towards the Orientals, both Christian and Muslim. But he was an arrogant man, and he and his southern French soldiers were unpopular with the rest of the army; and the death of the Papal Legate had deprived him of his main support. His rival was Godfrey of Bouillon, brother of the Count of Boulogne. Godfrey had inherited large estates in Lorraine from his mother and had been Duke of Lower Lorraine under the Western Emperor. He had been a rather incompetent administrator, but was generally liked for his piety and his modest demeanour. His elder brother was with him, but intended to return to France. His younger brother, Baldwin, had also joined the Crusade but had gone off on a wild adventure in Northern Syria and had founded for himself a County at Edessa, beyond the Euphrates.

Some of the Crusaders thought that the new state should be put under the government of the Church. But there was now no Papal Legate with the army; nor was there even a Patriarch of Jerusalem, the last Patriarch, a Greek, having died in exile. Besides, the state would clearly have be on a military basis and have a supreme commander; that is to say, a king or lay ruler was needed. An electoral body was set up, which apparently consisted of the leading ecclesiastics present with the army (or such of them as intended to remain in the East), together with those barons who themselves or whose families held land direct from some monarch at home or from one of the Crusading princes. These electors were also to form the High Court of the Kingdom, determined to limit the power of the King, who was to be little more than *primus inter pares*, except in time of war, when he would be supreme military commander.

The electors first offered the throne to Raymond of Toulouse. He was aware that there was strong opposition to him and that his power would be restricted. He was, moreover, genuinely pious. He replied that there was no place for a king in Christ's Holy City. He probably hoped that his refusal would make it impossible for anyone else to accept, and that the land would be put under the Pope, for whom he would be the obvious lay deputy. But the electors then offered the throne to Godfrey of Bouillon. He replied that he could not wear a crown where Christ had worn a crown of thorns; but he would accept the power if not the title. He would call himself *Advocatus Sancti Sepulchri*, lay defender of the Holy Sepulchre. He was installed as such; while Raymond, who considered that he had been

outwitted, angrily went off to found for himself a County in the Lebanon, the future County of Tripoli, which his descendants inherited.

The rights of the Church were still regarded. When a Latin Patriarch was at last elected, Godfrey did homage to him (as also did Bohemond of Antioch, though Antioch lay outside of his diocese). When Godfrey lay dying, the Patriarch made him sign a will leaving the sovereignty to him. But the barons who were allotted lands in the new state did homage to Godfrey as chief lay authority.

When Godfrey actually died, in July 1100, the Patriarch was away from Jerusalem, on a military expedition besieging Acre. Godfrey's friends suppressed the news of his death till they could summon a quorum of electors whom they trusted, who cancelled the will, as Godfrey had no right to make it without consulting the High Court; and they elected in his stead his brother Baldwin, Count of Edessa, in whose name they garrisoned Jerusalem. The Patriarch was defeated. He tried to have Baldwin arrested by Bohemond of Antioch as he journeyed down from Edessa to answer the electors' summons, but failed. Baldwin reached Jerusalem, where he firmly took the title of King, apparently with the support of public opinion, which had come to hold that a lesser title would not give him enough authority. The Patriarch was obliged to give way. On Christmas Day, 1100, he crowned Baldwin king.

At his coronation Baldwin did homage to the Patriarch, but he made it clear that it was a nominal homage. In the course of his reign he obliged the clerical land-holders, bishops and abbots, to do homage to him for their lands, and the Patriarch to obey his authority in all matters of state. The Counts of Edessa and Tripoli acknowledged him as overlord, but not the Prince of Antioch, whose suzerain—the lawyers of Jerusalem had decided—was the Byzantine Emperor. The Military Orders, whose story began in his time, were in a slightly different, indeed an equivocal, position. They claimed to be independent of the King, yet they had a say in his election as guardians of the Crown, and their lands were held of him in mortmain.

Baldwin had no heirs. His first wife and their children had died during the First Crusade. His second wife, an Armenian princess with a taste for Muslim pirates, was almost as unfaithful to him as he was to her. He repudiated her, but without a canonical divorce. He then married a rich widow, the Countess-Dowager of Sicily, who insisted in the marriage contract that if there were no children of the marriage (which was likely, considering her age), the crown of Jerusalem was to pass to her son, Roger II of Sicily. But the High Court in Jerusalem regarded this as unconstitutional. The marriage was not a success; and when Baldwin had spent her dowry he had it annulled, succession-clause and all, and the Dowager-Countess had to return to Sicily.

When he died, in 1118, the electors first chose his eldest brother, Eustace, Count of Boulogne, as being the proper heir, and sent to summon him to the East. Eustace set out rather reluctantly, feeling it to be his duty, but

when he reached Italy he learnt that the electors had changed their minds. He returned happily to his County and his handsome Scottish Countess. The electors by now thought that a man with longer experience of the East would be better, and chose his cousin, Baldwin of Le Bourg, Count of Edessa, who opportunely arrived on a pilgrimage to Jerusalem the day after his election. He gave Edessa to another cousin, Joscelin of Courtenay, whose family held it till the Muslims captured the County in 1144. Baldwin II spent more than a year of his reign in a Muslim prison. During those months the High Court correctly appointed regents for him.

By his wife, an Armenian princess called Morphia, Baldwin II had only daughters. His arrangements for the succession show how hereditary ideas were creeping in. He invited the High Court to help him to choose a husband for the eldest daughter, Melisende, on condition that they both succeeded to the throne. They selected a widower from France, Fulk Plantagenet, Count of Anjou (the grandfather of our King Henry II). He came out and married Melisende. On her father's death in 1131, she and Fulk automatically succeeded and were crowned joint soverigns, Melisende apparently before her husband. Fortunately, though they quarrelled in private, their outward harmony was adequate.

When Fulk died in 1142, leaving two sons by Melisende, the elder, Baldwin, was at once crowned jointly with his mother (that is to say, she was crowned again, this time before her son). There is no mention of an election now, but presumably the High Court endorsed the succession. Baldwin III was only aged 13, and Melisende governed, and tried to exclude him when he grew older. But when he was already 24 he managed at last to force her into retirement, though her rights as a Queen-Regnant were always recognized on legal documents. Baldwin died childless in 1162. His obvious successor was his brother Amalric, now aged 25. But now the High Court intervened. Amalric's wife was very unpopular; she was considered a loose woman and an intriguer. She was moreover Amalric's third cousin and therefore within the forbidden degrees. Amalric was told that he would not be elected king unless the marriage were annulled. He agreed on condition that the legitimacy of his son and daughter, Baldwin and Sibylla, was recognized. He then married a Byzantine princess and had another daughter, Isabella.

In spite of this interruption to the process, by the time of his death in 1174 the hereditary principle can be said to have been established. His son, Baldwin IV, succeeded without question, though he was aged 13 and known to be a leper. The High Court endorsed him without demur; and when they met to elect a regent they automatically followed the usual feudal custom of Europe in nominating the king's nearest adult relative on the royal side of the family. This was Raymond III, Count of Tripoli, who was chosen as the late king's first cousin, through his mother, Melisende's third sister, in preference to the Prince of Antioch who was the late King's first cousin once removed, but descended from Melisende's second sister. That is to say, it

was more important to be a generation nearer to the king than to belong to the elder line.

This triumph of heredity was largely due to the barons, who composed the High Court. At first the Crown had reserved the right to re-allot fiefs at its will. But the barons wished their own lands to be hereditary and had for some time past established that they and their heirs could not be ejected unless the holder of the fief was judged by the High Court to be guilty of treason. They felt that they could not well deny to the Crown the principle established for the vassals; and public opinion by now seems definitely to have preferred a regulated hereditary succession. But it was not yet absolutely regular. When Baldwin the Leper died in 1185, his proper heir was his sister Sibylla. She had been married first to a suitable lord from Europe, William of Montferrat, and they had been accepted as heirs-presumptive. But William had died, leaving an infant son; and Sibylla remarried a French adventurer, Guy of Lusignan, whom no one liked or respected. The leper-king therefore, with the approval of the High Court, left the throne to his infant nephew, Baldwin V; and Raymond of Tripoli was re-instated as regent. But the infant king died fifteen months later. At that time the regent and most of the barons were away from Jerusalem, but Sybilla and her husband Guy were near at hand. The Patriarch was her friend (her mother's lover, according to gossip). He arranged to crown Sibylla. But the crown had to be unlocked from its casket. The Master of the Temple sympathized with Sibylla and produced his key. The Master of the Hospital protested but eventually in a temper threw his key out of the window. It was retrieved. The Patriarch crowned Sibylla who then herself crowned her husband. Meanwhile the regent had summoned the High Court to meet at Nablus. There they elected the next heir, her half-sister Isabella. But Isabella's husband, one of the greatest lords of the realm, had nerves and went off to support his sister-in-law, while it became clear that opinion in general regarded Sibylla as heiress. The barons of the High Court had to admit defeat.

It was unfortunate; for Guy was an incompetent king. He led the army of the kingdom to its disastrous defeat at the Horns of Hattin in 1187, as a result of which Saladin captured Jerusalem and most of the kingdom. Guy's defeat, his ensuing captivity and his release which he obtained by yielding up fortresses to the infidel, disillusioned everyone; and he lost his legal right to be king when Sibylla died in 1190. The barons hoped to get rid of him. Their candidate was Conrad of Montferrat, brother of Sibylla's first husband. He had arrived in Palestine just after the disaster at Hattin and by his energy and ability had preserved the fortress of Tyre for the Christians and so saved the existence of the kingdom. They decided to marry him to Isabella, who was now rightful heir. She had one husband living, and Conrad one if not two wives. There were some hasty divorces of doubtful legality; and Conrad married Isabella and claimed the throne in her name.

It was now the eve of the Third Crusade, which was to restore the coasts of Palestine though not Jerusalem itself to the kingdom. As Guy still had supporters, particularly the Templar knights, it was decided to submit the case to the European monarchs who were due to arrive on the Crusade. Unfortunately, of the two monarchs who arrived, Philip Augustus of France backed Conrad, who was his cousin, while Richard of England backed Guy, the Lusignan family being his vassals. In the end Richard was obliged to yield. Guy was compensated with the Kingdom of Cyprus; and Conrad was about to be crowned along with Isabella when he was murdered by the Assassins. Isabella and the promise of the crown were then given to Count Henry of Champagne, who had come out with the Crusade and who was the nephew of both King Philip Augustus and King Richard and therefore acceptable to everyone. But he fell from a window when watching a military parade before he had arranged for his coronation; and Isabella then married Amalric of Lusignan, who had succeeded his brother Guy as King of Cyprus, and was far abler and better respected than his brother, and Amalric and Isabella were crowned together at Tyre. Isabella had one daughter by her marriage to Conrad, two by her marriage to Henry and two by her marriage to Amalric.

It was in her time that the law of succession was officially pronounced, in a code called the *Livre du Roi*. Curiously enough it copied the law not of France but of the Low Countries. The eldest surviving son succeeded, but in default of a son the eldest daughter (France did not admit primogeniture among women). But the daughters of the monarch's first marriage took precedence over the sons of the second marriage (a custom unknown outside of the Low Countries). If the succession had to pass to a collateral line it was not clear whether a claimant belonging to a younger branch could, as in the case of the regency, rank above one of an elder branch if he or she happened to be a generation nearer to the late monarch; that is to say, would a first cousin *always* be preferred to a first cousin once removed? The High Court remained the arbiter in the event of disputed successions, but as a Court of Law, not as a body of electors. The elective kingship was gone. In the case of a regency a widowed parent might be and usually was preferred to the next of kin on the royal side. If there were no resident next of kin the High Court then did choose a regent from amongst the barons.

Thus, when Isabella died in 1205, a few months after her fourth husband, her 14-year-old daughter by Conrad, Maria, automatically succeeded. She had no royal kin apart from her younger sisters, so the High Court appointed a non-royal uncle (her mother's half-brother) as regent till a husband was found for her. This husband was chosen by the King of France acting at the request of the High Court. He was a widower, John, Count of Brienne. Maria died soon after giving birth to a daughter, Isabella II, or Yolanda, who succeeded when she was a few days old, with her father as regent. But when she later was married off by her father, on the Pope's suggestion, but

with the subsequent approval of the High Court, to the Emperor Frederick II of Hohenstaufen, King John, to his annoyance, lost his position as regent, which passed to Frederick as King-Consort. The Empress died soon afterwards in childbirth; and her infant son, Conrad of Hohenstaufen, became king with Frederick continuing as regent. But when Frederick came out to the East on his Crusade he behaved as though he were King-Regnant. When he recaptured Jerusalem by treaty in 1229, he crowned himself king there. Hardly any of the barons assisted. He had to provide himself with a new crown for the occasion. The barons disapproved because he was excommunicated at the time, and the Patriarch would have nothing to do with him, but partly because he was being unconstitutional. The barons had acquired an extraordinary passion for the Law; the Kingdom of Jerusalem in the 13th century was a lawyers' paradise.

After Frederick had returned to Europe he sent out a deputy to govern for him. But most of the country would not accept him, and after a long civil war he retired. Meanwhile the legal position became more and more unreal. Conrad of Hohenstaufen was still recognized as king, though he never came near the land. When he came of age, the next heir, Alice, Queen-Dowager of Cyprus, who was Maria's eldest surviving half-sister, put in a claim for the crown on the ground that an absentee monarch forfeited his right. The High Court did not admit this, but in the king's absence they accepted her and her third husband as regents *de jure*. In fact a committee of the High Court governed, except when distinguished visitors like Richard Earl of Cornwall or Saint Louis, King of France, arrived and were temporarily entrusted with the administration.

Queen Alice of Cyprus held the nominal regency till her death in 1246, when she was succeeded as regent by her son, King Henry I of Cyprus. On his death seven years later, with an infant son to succeed him in Cyprus, the regency passed to his widow Plaisance who was also Queen-Regent of Cyprus. As she lived mostly in Cyprus, an acting-regent was appointed by the High Court. Conrad of Hohenstaufen died in Germany in 1254, and the crown of Jerusalem passed to his two-year-old son, the ill-fated Conradin, whose rights the lawyers in the Kingdom scrupulously observed. In 1261 there was a constitutional crisis. The Queen-Regent Plaisance died; her son, King Hugh of Cyprus, heir-presumptive to the throne of Jerusalem, was still only aged eight. His father had two sisters. The elder had died, leaving a son, Hugh of Brienne; the younger, Isabella, wife of a prince of Antioch, was alive and had a son, also confusingly called Hugh. Hugh of Brienne was diffident about putting forward a claim in opposition to his aunt Isabella, who had brought him up. But the barons of Cyprus did not want another woman-regent and elected her son, Hugh of Antioch; while the High Court of Jerusalem, more legal-minded (and anyhow intending the regency to be nominal), decided that Isabella, as being of an elder generation than her nephew or her son, must be chosen. And when she died next year,

they decided that as she had been regent her son must succeed her rather than her nephew, in spite of the latter's greater hereditary claim. When the young King of Cyprus died a few years later, the barons of Cyprus did likewise, preferring to give their throne to Hugh of Antioch rather than to his senior cousin; who protested but consoled himself by marrying the Frankish heiress to Athens.

A greater problem occurred next year, 1268, when Conradin of Hohenstaufen lost his life when trying to wrest his grandfather's Kingdom of Sicily from Charles of Anjou, Saint Louis's brother, who had been allotted that kingdom by the Pope. By the rules of hereditary succession the heir to the throne was Hugh of Brienne; but as he had already been passed over for the regency his claims were disregarded; and the High Court offered the throne to Hugh of Antioch, King of Cyprus. Suddenly another claimant appeared, a middle-aged spinster, Maria of Antioch. Her mother had been the youngest daughter of Isabella I, and she was the only surviving member of her generation. There followed one of the discussions that mediaeval lawyers loved. Did she, as first-cousin-twice-removed to the late king, rank above the King of Cyprus who was a second-cousin-once-removed? The Regency had hitherto been allotted to a member of an elder generation in preference to one of a younger generation of a senior branch. Did the same laws apply to the Crown? Or was the question affected by the fact that Maria was descended from Isabella I's fourth marriage while the King of Cyprus was descended from her third? In the end the lawyers decided in favour of the King of Cyprus, less, it seems, on legal grounds than because a vigorous young man, after so many years of absentee monarchs, would obviously be a better proposition than an ageing old maid. Maria protested and went bustling off to Rome, where she secured the support of the Pope. But the lawyers of the Kingdom considered that even the Pope had no right to reverse their decision.

However, the barons soon discovered that a vigorous young king was not to their liking, especially as he was a tactless man who made enemies. In 1276 he retired to his kingdom of Cyprus in dudgeon, taking the actual crown of Jerusalem in his luggage. Meanwhile Maria, on the Pope's suggestion, sold her claims to Jerusalem to the Papal protégé, Charles of Anjou, King of Sicily—a sale which the High Court of the Kingdom considered invalid (and in fact she never received all the cash due to her). But when Charles of Anjou sent out a regent with an army to take over his new kingdom and the rightful king remained sulking in Cyprus, Charles was for a time accepted *de facto*, but never *de jure*. However, after his power was broken in 1282, by the massacre of the Sicilian Vespers, he withdrew his forces. Hugh of Cyprus returned to his mainland kingdom in 1284; and on his death his two sons in turn succeeded him. The younger, Henry, was reigning when the Egyptian Sultan captured Acre in 1291 and put an end to the actual Kingdom of Jerusalem.

But the title lingered on. The kings of Cyprus were, as we have seen, crowned Kings of Jerusalem at Famagusta for nearly another century. After that they gradually abandoned the title. The descendants of Charles of Anjou maintained it more vociferously. It is from them that the two chief claimants of recent years, the Emperor of Austria and the King of Spain, are descended.

I have wearied you with a long and complicated story. It is perhaps of some interest in that it shows clearly and concisely how the elective monarchies of the earlier Middle Ages gradually became purely hereditary. It shows the effect of transferring a feudal pattern to the East. It shows the increasing passion of mediaeval man for the subtleties of the law, which was particularly marked in these Syrian colonies. Indeed, had the barons of the Kingdom of Jerusalem been worse lawyers but better soldiers and diplomats, the kingdom might have lasted for longer. Legal logic is never a good substitute for administrative elasticity and common sense. Finally, it presents a whole series of wonderful problems for genealogists.

If any of you should wish to solve the Palestine problem by placing the Crown of Jerusalem upon its proper head, I can offer you any number of candidates. If you respect the claims of the Royal House of Cyprus, the house of Lusignan-Antioch, you might enquire who are the heirs of Miss Eliza de Lusignan, who worked as a governess in Ceylon in mid-Victorian days and died in Lower Edmonton in 1873. But actually, I fear, there was some illegitimacy in her descent. The proper heirs of the Lusignans were the Counts of Savoy, from whom the ex-King of Italy derives a claim, though a better claim passed through the female line of the Savoys and is now held (together with a claim to the British throne) by the eldest son of the late Crown Prince of Bavaria. If you prefer the line of Hugh of Brienne, whose legal rights were disregarded in 1268, then the crown should go to the heiress of the French family of La Tremouille, Princess Henry of Ligne, though I think that a better claim can be made for the present head of the house of Bourbon-Parma, heir of the Briennes through the families of Foix, Navarre, and the senior line of the Bourbons. The claims of the English Baroness Beaumont, who represents the senior branch of the Briennes, can be disregarded. She is not actually descended from a King of Jerusalem.

If you regard Charles of Anjou as having established his claim, his senior heirs became Kings of Hungary and so Emperors of Austria. The Archduke Otto is therefore a claimant, but I would prefer his cousin Frau Petznek, the former Archduchess Elizabeth. But when the senior Angevins became Kings of Hungary they are said to have left the claim to Jerusalem, along with the crown of Sicily, to the junior line. If you regard these two crowns as henceforward indivisible, you can say that it passed to the House of Lorraine and so, when Maria Teresa of Austria married Francis of Lorraine, to the Hapsburgs and so to Frau Petznek. Or did it pass to the House of Aragon when the Aragonese conquered Sicily? In that case the proper

claimant is Don Juan of Spain. If we keep to a strictly hereditary basis here, it is possible that the crown should go to the Prince of Monaco as representing the House of Les Baux, though I believe that the correct head of the relevant line of this family is a certain Signor Balsa, a respectable citizen of Naples.

I have given you a large choice. It needs a meeting of the High Court of Jerusalem to decide the issue. I must close by saying that I feel that your great Society should fulfil this role. For what body is better fitted to explore into a matter so pertinent to the proper status of Palestine?

THE DATE OF THE INCOMPLETE ISAIAH SCROLL FROM QUMRÂN

By S. A. Birnbaum

Only a few of the Qumrân MSS.—and not even all the longer ones—have been subjected to detailed palaeographical examination. The present article, investigating the incomplete Isaiah Scroll (Is B), is intended as a further contribution to this field.

A first, preliminary glance at the letter forms[1] indicates that the script belongs to the centuries around the Christian era. For a detailed examination we may, therefore, restrict our comparative material to this period. The documents utilized are: the early third century B.C.E. documents from Egypt (Eg), the Tobias inscription (Tob) from 'Arâq el-Amîr, of about 260 B.C.E., the Sabbath boundary stones from Gezer (Gez), of the first third of the first century B.C.E., the graffiti on the ossuaries (Oss), from about the hundred years ending with 70 C.E., the plaque of King Uzziah (Uz), of the same period, and the Jewish graffito on the ossuary of Queen Helena (Hel) of Adiabene, of the decade 50–60 C.E.[2] In the interests of brevity telegram style and brackets are used for the comparisons.

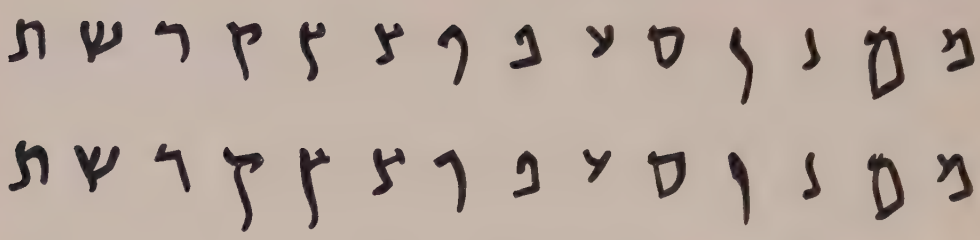
The downstrokes have a slightly rightward slope, the transversals a leftward one; between them is an angle of about 90 degrees or just over.

Aleph: The main stroke tends to be slightly wavy (Eg; Oss, Uz—straight). The left stroke is curved (Uz; Eg, Oss—occasionally; Oss—there are, in addition, specimens with a "foot", evidently an angularization of the curved form). The left stroke issues from the upper half of the main stroke (Eg—centre; Oss—top). It generally reaches the line bottom (Oss—often; Uz, Eg—never). The right stroke is longish (Eg, Oss, Uz).

Beth: The top part is a "tick" (Tob, Oss; Eg—generally a curve) with the right arm sometimes rather long (Tob, Oss) and, occasionally, horizontal. The left arm is now and then vertical (Tob). The downstroke is straight (Tob, Oss), occasionally vertical. The right bottom corner is pointed, rectangular or acute-angled (Tob, Oss). The base sometimes juts out slightly to the right (Oss). These two features suggest that this line was generally drawn from left to right.

[1] See *The Dead Sea Scrolls of the Hebrew University*, ed. by E. L. Sukenik, or my *The Hebrew Scripts*, pl. 87 A (which corresponds to plates 8–9 of Sukenik's book).

[2] For bibliographical references see pp. 140–142 of my article in *P.E.Q.* **81** (1949).



Gimel: The right stroke tends to be slightly wavy. The left stroke, which is very curved, issues from the centre of the right one (Gez, Oss; Eg—top or near it). Both strokes are of equal length.

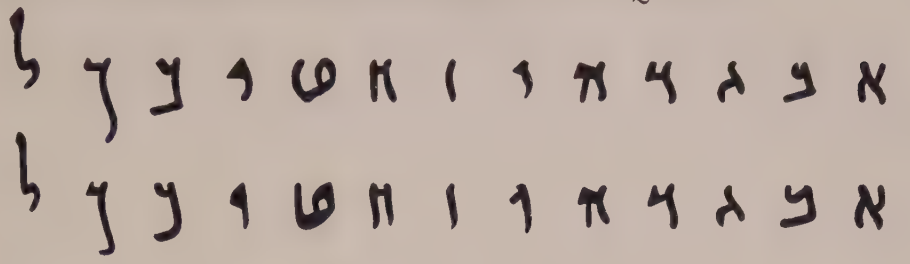
Daleth: The top part is a tick (Oss; Eg—rounded), rather narrow (Eg—very narrow; Oss—rather narrow or widish; Uz—wide), large (Oss; Eg—small), acute-angled (Oss; Uz—rectangular). The right arm meets the downstroke considerably below the top (Eg, Oss; Uz—near the top). The downstroke is slightly wavy (Eg—rarely; Oss—straight).

Hê: The top stroke is below the line ceiling (Eg, Oss, Uz; in Tob it still consists of two strokes). It is in horizontal position (Tob, Oss, Uz; Eg—often) and straight (Oss, Uz; Eg—often; Tob—the left part). Its thickness is double, and even more than double, that of the other strokes (not in Eg, Tob, Oss, Uz, Hel; Oss [very often], Uz, Hel—the stroke starts as a tick which might possibly be the mason's rendering of the thick pen-written stroke); the upper outline slopes down rightwards so that the stroke tapers somewhat. The right downstroke has the usual stance (Tob, Oss, Uz, Hel; Eg—strong slant). It is either slightly wavy, bent or straight. The left stroke issues from the centre, or from slightly left of the centre, of the top stroke (Eg—from right end; Oss, Uz, Hel—from near left end). It is not parallel with the right stroke because it slopes gently leftwards or it is vertical (Oss, Uz, Hel; Eg—at an acute angle with the right stroke).

Waw: The top is an acute angle (Oss, Uz; Eg—obtuse; Tob—rectangular, starting as rectangular tick). The downstroke is generally slightly curved (Eg; Oss, Uz—straight) and often hardly reaches the line bottom (Eg—sometimes; Tob, Oss, Uz—never); but in final position it even now and then extends slightly below the line bottom. The left stroke is much shorter than the right one (Oss, Uz; Eg, Tob—less difference, up to almost equal size); Tob—starts as a rectangular tick, representing the earlier curve).

Zayin is of line height (Gez, Oss, Uz; Eg—generally), very slightly wavy (perhaps corresponding to those Oss forms which start with a bend) or nearly straight (Eg; Gez, Oss, Uz—straight).

Heth: Sometimes the downstrokes are parallel (Eg, Oss, Uz) but generally the right stroke is bent inwards (Eg—sometimes), the bridge is straight (Oss, Uz; Eg—generally), short (Eg, Oss, Uz—long) and lies just below the line ceiling (Eg, Oss, Uz; Gez—somewhat lower down).



Teth: The left stroke is slightly curved (Eg, Tob—strongly) or straight (Oss, Uz). It is of line height (Oss, Uz; Tob—almost double). The right top part has generally the form of a narrow Gothic arch (Oss; Uz—in oblique position; Eg—left arm generally straight) with its apex not far from the right edge of the letter (Oss; Uz—slightly more to the left; Eg—generally on the edge; Tob—an arc issuing from the centre of the left stroke). From the bottom end of the right stroke a straight line slants down to meet the end of the left main stroke (Oss, Uz; Eg—the right arm of the top and the downstroke together form a continuous line, curved or straight). The letter is wide (Oss; Uz—very wide; Eg—narrow).

Yodh is an acute angle (Eg, Oss, Uz), the left arm very oblique (Eg, Oss, Uz), the right one has the usual stance (Oss; Eg—sometimes strongly oblique), a right-curve (Eg; Oss—sometimes) or straight (Oss, Uz). The right arm is roughly of line height (Eg, Uz; Oss—sometimes), the left one about half as long (Eg; Oss, Uz—sometimes shorter). The difference between yodh and waw is not that yodh is smaller—on the contrary, the top of yodh is larger than that of waw because the angle is, as a rule, bigger and the left stroke longer. *Cf.*, *e.g*, cases where waw and yodh occur as a cluster of three letters: the yodh is then characterized by straightness.[1] (Tob has the old form but the main stroke has become short, stopping in the middle of the line height, the second transversal issuing almost from its end.)

Kaph: The top part is a tick (Oss) or curve (Eg), it is rather narrow (Uz; Eg—generally; Oss—varying). It meets the main stroke, just below the top (Hel; Eg—sometimes. At the top—Oss, Uz; Eg—generally). The main stroke has just a trace of waviness (Hel, Oss; Uz—slightly curved). It bends (Oss, Uz, Hel) or curves (Eg) into a straight base (Oss, Uz, Hel; Eg—occasionally) which sometimes lies at the line bottom (Oss, Uz, Hel) but generally below it, sometimes considerably so (Eg). Kaph differs clearly from beth where the top and base are wider and where the base is never below the line bottom.

Final kaph has a top " tick " (Uz; Oss—a straight stroke; Eg—a curve), the right arm of which is transversal (Oss, Uz). This arm is from medium long to long (Oss, Uz; Eg—medium long to short). The top stroke is very

[1] E.g., Sukenik, *DSS*, pl. 6, line 5; pl. 12, line 11.

thick. The downstroke is roughly double the length of the line height (Eg, Oss, Uz), somewhat longer than the descenders of nûn and sadhe. It is wavy (Eg; Oss, Uz—straight or has a final leftward curve).

Lamedh: The top stroke is about double the height of the lower part (Eg, Oss, Uz). It starts with a small upstroke (Uz; Oss—occasionally; Eg—never), the effect of this movement being to fill the top corner with ink, giving the stroke a wedge-like shape. The transversal slants down rightwards (Eg; Oss, Uz—horizontal) and is straight (Oss, Uz; Eg—beginning of this development); its length varies from short to long (Eg, Oss; Uz, Hel—medium). The bottom stroke extends to about the middle of the line height (Eg, Oss, Uz); it is straight (Uz, Hel; Oss—generally; Eg—beginning of development). The two strokes form a sharply pointed corner (Oss, Uz, Hel; Eg—occasionally).

Mem: The top stroke is an acute-angled tick (Oss—often, otherwise rectangular or obtuse; Eg—sometimes; Hel—rectangular; Gez, Uz—obtuse) with short arms (Hel). The top corner is sharply pointed (Gez, Oss, Uz; Eg, Hel—round). The right downstroke is occasionally a little wavy (Eg; Gez—slightly curved; Oss, Uz, Hel—straight). At the line bottom (Gez, Oss, Uz, Hel; Eg—lower down) it bends at right angles (Gez, Oss, Uz, Hel; Eg—curves) leftward to form a straight base (Oss, Uz, Hel; Eg—down-curve; Gez—slightly down-curved) of varying length (Gez, Oss, Uz, Hel—considerable; Eg—short). The left downstroke issues from the meeting point of the two arms of the tick (Gez, Oss, Uz, Hel; Eg—from above the top stroke, and crossing it) and is short (Gez, Uz, Hel; Oss—varying, sometimes very short; Eg—generally rather long); it sometimes runs at the same angle as the right arm of the tick (Hel; Oss—often; Gez, Uz—obtuse angle) but is an independent stroke, thinner and often slightly curved (Eg, Hel; Gez, Oss, Uz—straight). This, combined with the fact that in the majority of specimens the two strokes are at a different slant, makes it clear that also in cases where there seems to be one continuous stroke of even thickness, there are really two separate strokes.

Final mem: The top part is an acute-angled " tick " with a rather long right arm (Eg, Oss, Uz). The right corner is rectangular or slightly rounded (Oss, Uz; Eg—exceptionally). The right downstroke is straight (Eg, Oss). Running to appreciably below the line bottom (Eg, Oss; Uz—line bottom or just below) it bends, at about right angles (Oss, Uz) or it curves (Eg) leftward to form a straight base (Oss; Eg—down-curve) of considerable length (Oss—medium; Eg—short) so that it ends almost a line height below the line bottom. The left downstroke starts above the top stroke, crosses it obliquely (Eg; Oss—one of the types is a further development of this form, in the other type the stroke issues from the top stroke) and then bends downward, continuing at a very slight leftward slant until it meets the base at the left end (Oss, Uz; Eg—letter is open) or just before this; accordingly the two downstrokes are not parallel (Eg; Oss, Uz—parallel).

Nûn: The downstroke is sometimes straight and generally almost straight, being either slightly wavy (Eg, Oss) or curving slightly leftwards (Oss). At the line bottom (Oss; Eg—generally further down) it bends or curves, at about right angles, into a straight base (Oss; Eg—down-curve) or medium length (Oss; Eg—generally narrow).

Final nûn is generally of double the line height but shorter forms also occur (Eg, Oss). It is usually a wavy line (Eg, Oss); the upper part is generally thickened; sometimes it has become straight (Eg, Oss).

Samekh: The top stroke is straight (Oss; Eg—sometimes) or slightly curved (Eg—generally). On the left end it is crossed by the downstroke (Oss—often; Eg—never). As far as I can see the two strokes are not actually linked up here (Oss—occasionally, by a loop) although they sometimes look as if they were. (At the next stage that link would have become the left arm of the top part.) This appearance of being linked is created by the ink having filled in the corner between the two ends. The right top corner is usually bevelled (Oss—sometimes; Eg—rounded right angle or wide curve). The upper half of the right downstroke is vertical or, more often, oblique. The lower half slants leftward to land at the line bottom opposite the beginning of the top stroke (Oss; Eg—often stops on the right). The left stroke runs down vertically to meet the end of the upper stroke so that the letter is closed (Oss; Eg—curves leftwards, so that the letter is open). Thus the outline of the letter is generally a triangle standing on one of its corners but somewhat quadrilateral forms are not rare.

Ayin: The right stroke slants leftward and almost reaches the line bottom (Eg—stops at about half the line height; Oss, Uz—line height). It is somewhat bent (Eg, Oss—occasionally), sometimes it is quite straight (Oss, Uz). The left stroke is straight (Uz; Oss—generally; Eg—rarely) and meets it about the centre (Oss, Uz; Eg—at the end).

Pe: The right downstroke is straight (Uz; Eg, Oss—occasionally) or just slightly right-curved (Eg, Oss). At the line bottom (Oss, Uz; Eg—much lower down) it bends at about right angles (Oss, Uz; Eg—exceptionally) leftwards, now and then it curves (Eg), to form a straight base (Oss, Uz; Eg—exceptionally) of considerable length (Oss, Uz; Eg—exceptionally). The left stroke is of medium length, extending to about the middle of the line height (Oss; Eg—short), slants down leftward and is slightly bent (Oss—often; Eg—rarely; Uz—strongly curved).

Final pe: The main stroke is appreciably less than double the line height (Eg, Oss); it is a right-curve (Oss—sometimes; Eg—top slightly curved, rest straight). The left stroke is generally curved (Eg, Oss); it extends to about the middle of the line height but is considerably longer than in non-final pe because the angle between the two strokes is bigger than there.

Sadhe: The main stroke is straight (Oss—sometimes; Hel—bent) or a shallow curve (Oss—occasionally). At the line bottom (Oss, Hel; Eg—much lower down) it bends at about right angles (Oss, Hel; Eg—curves)

leftward to form a straight base (Oss, Hel; Eg—down-curve). The base is short (Eg; Oss—short or medium long; Hel—medium). The right stroke consists of two straight or straightish arms forming roughly a right angle (Oss—often; Eg—corner rounded). The lower, left, arm is often slightly longer (Eg—short; Oss—medium to long).

Final sadhe: Its length varies, ranging from somewhat more than one line height to fully two. The main stroke is wavy, a left-curve or even straightish. As to the right part, *cf.* sadhe.

Qoph: The top stroke is an obtuse-angled or rectangular "tick" whose right arm is long and straight (Oss; Eg—wavy line or down-curve). From its end a very short stroke runs down at about right angles, bending half way down, at an obtuse angle, after which there is a leftward slant (Oss—sometimes; Eg—large semi-circle); this stroke is of varying length but it never reaches the left downstroke (Oss—generally very short; Eg—very rarely). The left downstroke issues from the top stroke (Eg; Oss—generally) its length varies, ranging from somewhat more than one line height to fully two (Oss; Eg—line height or very little more); it is usually very slightly wavy (Eg; Oss—sometimes).

Resh: The top part is an acute-angled tick (Oss—often rectangular; Hel—rectangular; Eg—curve); the right arm is usually of medium length (Oss—varying, generally long; Hel—long). The main stroke issues from its end (Oss, Hel; Eg—top curve meets downstroke below the top) so that the letter is clearly distinct from daleth where the meeting between the top stroke and the main one is well below the top. The downstroke is often a gentle right-curve (Eg—often; Oss, Hel—straight) which makes the corner appear rounded.

Shîn: The right stroke starts vertically (Eg, Oss—now and then) or obliquely, bends about half way down at an obtuse angle. It meets the left stroke just above the end (Oss—generally; Eg—at end). Now and then the left stroke continues rather far down (Oss—occasionally). The middle stroke, straight or practically so, but not parallel with the right one (Eg; Oss—rarely), generally reaches the left one rather far down so that it is of considerable length (Oss—often). The left stroke has just a trace of waviness.

Taw: The left stroke is of line height (Oss, Uz, Hel; Eg—taller and lower); it is just slightly wavy (Oss—rarely; Eg—very wavy) or is a shallow left-curve, almost a straight stroke (Oss—generally straight; Uz, Hel—straight). At the line bottom it bends leftward to form a straight, oblique, "foot" (Oss, Uz, Hel; Eg—oblique, curved, sometimes curled). From just below its top issues the middle stroke (Eg; Oss—sometimes, but more often, as also in Gez, Uz, Hel, it crosses from the left; in Oss now and then a loop has developed); it is straight (Oss—generally; Uz, Hel—sloping; Eg—curved, not an independent stroke but the beginning of the right stroke) of medium length (Gez, Oss, Uz, Hel; Eg—short). From its end, forming a

rather sharp corner (Oss—often; Uz, Hel—rounded; Eg—very rarely) issues the right downstroke which is of line height (Oss, Uz, Hel; Eg—same, or shorter); it is straight or a slight right-curve (Uz, Hel; Oss—generally; Eg—often, but pronounced curves preponderate).

Conclusions

In looking through the foregoing examination we see that, as might be expected, the scripts of the Gezer Stones, the Uzziah Tablet and the Helena Graffito nearly always tally with that of the Ossuaries. We shall, therefore, not deal with them separately here but simply include them in Oss. On the other hand, the letter forms of the Tobias Inscription agree either with those of both the Ossuaries and the Egyptian documents, or only with the former, or they differ from both. They thus afford us little help towards arriving at a result. We have accordingly the straightforward task of establishing the relation between Is B on the one hand and Eg and Oss on the other.

In examining the 27 letters of the alphabet we utilized 164 different features. Out of these, 48 were common to Is B, Eg and Oss. This is natural since the interval between the two periods is, after all, not more than two to three centuries. Seventeen features (in aleph, heth, kaph, final kaph, lamedh, mem, final mem, samekh, pe, resh, shîn, taw) are common to Is B and Eg but not to Is B and Oss. Eighty-six features (in aleph, beth, gimel, daleth, hê, waw, teth, yodh, kaph, final kaph, lamedh, mem, final mem, nûn, samekh, ayin, pe, final pe, sadhe, final sadhe, qoph, resh, shîn, taw) are common to Is B and Oss but not to Is B and Eg.

If we transfer this numerical proportion to a time graph beginning in the early third pre-Christian century and ending at 68 of the first Christian century (the *terminus ad quem* for Qumrân) we arrive at somewhere round about the first quarter of the first Christian century as the time when our MS. was penned.

It thus belongs to the Oss period. Since there is much Qumrân material of the same time we might try to check our result by comparing Is B and such MSS., and thence by working out a relative chronology on which an absolute one could be based.

For purposes of palaeographical comparison the War, the Hymns and the Genesis Apocryphon Scrolls provide a rich source. To do this work here would, however, lead us much too far and I will give only my result: Is B is the earliest of the four scrolls. It may be assigned to the first half or third of our period.

When we attempt now to turn this relative date into an absolute one we receive important help from some extraneous evidence which considerably narrows down the limits within which our date may be placed. We know that there was a break in the settlement at Qumrân during the last third of the first pre-Christian century and a revived settlement at the beginning of

the next century. In view of the fact that so many of the Qumrân MSS. belong to the Oss period it might not be unreasonable to assume that many—if not the majority—were not brought from elsewhere when the settlement was re-established, but were written at Qumrân itself, i.e., between the years 4 (approximately) and 68. Accordingly Is B would belong to the first third or quarter of the first century. This date coincides with the one we arrived at above.

It can further be supported by a palaeographical comparison with the pre-Christian MSS. (the Habakkuk, the Yahad and the complete Isaiah Scrolls) which shows that Is B cannot be contemporaneous with them but must be some generations later than the latest of the three (the Habakkuk Scroll, of about the second quarter of the first pre-Christian century).

NOTES ON QUMRÂN

By F. E. Zeuner

Thanks to the kindness and hospitality of Père R. de Vaux, the writer was able to collect samples for scientific investigation at Qumrân. In addition, he studied on the spot a large number of bone fragments found with pot sherds which were suspected of being remains of ritual meals. It is hoped that the following notes on part of this material will contribute to the solution of some of the problems connected with this famous site. They deal with the age on radiocarbon evidence, the bones found, the filling of the cistern and the deposits of the ponds at 'Ain Feshkha.

I. Radiocarbon Age

A sample of charcoal was obtained from a small room in which a large number of earthenware vessels had been stacked (No. 86/89 of de Vaux, 1959, his pl. IX, where the charred wood is seen on the floor). The lumps of charred wood and the ash were concentrated in the part called 86 and they appear to have been derived from fallen rafters. The wood was easily identified as that of the date palm (*Phoenix dactylifera* L.), and the diameter of the trunk is estimated as having been of the order of 25–30 cm. This is moderate for the species and may suggest unfavourable environment, as indeed would have been the case had this tree grown near the Dead Sea. The mode of growth of palms differs from that of most other trees in that no annual growth increments occur under the bark. The full thickness is formed first, before upward growth begins. Since the log in question must have been long enough for its timber to serve as rafters, one arrives at an age of about 50 years ± 35, i.e., the tree is likely to have been older than 15 years, but younger than 85. This allowance has to be taken into account when the radiocarbon age is considered.

As usual, the samples were prepared in the Geochronological Laboratory, and the dating carried out by Dr. D. E. Vaughan, using acetylene in the apparatus constructed in the Davy-Faraday Laboratory of the Royal Institution by Dr. Crathorn and himself. Two methods of preparation were employed:—

GL 25.	Washed with HCl only	1940 ± 80 years
GL 47.	Washed with HCl and NaOH ..	1940 ± 80 years

The two results are thus identical. The figures represent the age of the wood and, according to what has been said, about 50 years have to be deducted to obtain the probable date of the burning. The analyses having

been done in 1956, we obtain A.D. 66 or thereabouts for the date of the burning. Taking the standard deviation into account, a value within the first century A.D. is almost certain to be correct, and there is a remarkable approximation to the year of the Roman conquest, A.D. 68. This confirms more narrowly than the earlier radiocarbon date (which had too large a standard deviation) de Vaux's original estimate that the main occupation period of Qumrân fell within the first 70 years of the Christian era (de Vaux, 1953 : 103). On the other hand, de Vaux (1956 : 542) has established that this room was constructed in Period 1b, i.e., prior to the great earthquake. The part containing the pottery, however, was subsequently walled off (de Vaux, 1956, pl. IX). Final destruction occurred as the result of war, as pointed out by the excavator. The radiocarbon date suggests that the charred palmwood belongs to the end of Period II.

Though not relevant in this context, the date obtained for woollen textile from the cave of Wadi Murabba'at (Harding, 1953), Jordan, known in connection with Bar Kochbah's revolt, may here be recorded. The material (Cat. Nos. 31, 34, 35) was collected by Mr. Gerald Lankester Harding, then of the Amman Museum. No preparation was applied to the specimens.

GL 37. .. .. 1350 ± 60 years = *c.* 600 A.D.

It is evident that this material is later than Bar Kochbah, even if alkaline pretreatment should produce a slightly earlier date.

II. The Animal Bones

At the foot of a number of walls at Qumrân and in the open places within the site, animal bones were found buried under sherds or in small vessels.[1] De Vaux has reported on these (1956 : 549, pl. XII a, b) and included a brief summary of my identifications. It remains here to present certain details; for location and circumstances of the finds reference may be made to the publication quoted. The majority of the finds belong to Period I, though the custom of bone burial continued into Period II.

The contents of 39 jars were examined. Many of them were broken, it appears, even prior to their interment. All contained odd bones or articulated fragments only, and in no case was a complete skeleton found. The bones were in a poor state of preservation, and very brittle owing to the presence of gypsum. In addition many must have gone into the jars as fragments. In all, about 500 specimens were identified.

The species represented are goat, sheep, cattle and possibly one other unidentified species of the size of a small cow (Kh. Q. 2139, 15 bones). The goats were exceptionally large when full grown, but the bones usually came from immature individuals. One male had its skull cut open to extract the brain (South Trench 3), the identification being based on eleven bones apart from ribs and vertebrae.

[1] The term "jar" is used in this paper, though it is usually not certain whether the bones were contained in vessels or merely buried under some sherds.

Sheep were present in about the same number as goats, one of them (South Trench 8) being a male. The bases of the horn cores were preserved and eleven other bones were found in addition to the skull fragments.

The majority of the bones came from individuals that were certainly either goat or sheep and that could not be identified specifically. There was also a number of very young specimens, either kids or lambs. The grand total of the goat plus sheep category is 408 specimens out of 492.

Beef was represented by four individuals, and there were six calves, the total of separate bones examined being 69.

Since several bones in any one jar may have belonged to the same individual, the minimum number of individual animals was calculated. Their numerical distribution is as follows:—

5 goat
5 sheep
26 sheep or goat
10 kid or lamb
4 ox or cow
6 calves
1 other

The maximum number of identifiable bones of any one specimen was twenty-two.

Ribs and vertebrae were not counted. They were usually present where the number of bones was high. On the other hand, where an individual was evidenced by one or two bones only, these were nearly always metapodials, bones on which there is no flesh to eat. One asks oneself, therefore, where the remainder of the particular joint had gone. The fact that it was considered worth while to place in a pot and then to bury scraps of a meal that were useless for human consumption strongly points to a ritual character of the custom. More than that, it suggests that the ritual had already become merely a matter of form, the original sacrificial effort having been replaced by a symbolic act.

Twenty-six of the thirty-nine jars contained the remains of one animal only, nine of them of two, three of three, and one of four. If the bones are the remains of meals, as is probable, the meals consisted usually of one animal only which implies a comparatively small company. The largest number of animals found in one jar (130, 6 A 5) was four, namely one goat represented by seventeen bones, two sheep or goat represented by four and one bone respectively, and beef represented by four bones. The scrappy nature of the remains is very evident, though the main meat was evidently goat. In all other cases where more than one specimen was found in a jar, it is equally evident that one provided the bulk of the meal, the others being merely odd scraps.

Pig was entirely absent, but otherwise it was obviously not important which species was eaten, though goat and sheep predominate, forty-six compared with ten of beef or veal. This proportion speaks against the theory that these are the remains of Passover meals, as in that case beef would not have been allowed.

Some of the bones showed traces of charring, which is not surprising if one remembers that much of the meat would have been roasted on the spit. It is noteworthy, however, that several calcined bones were found which must have been lying in the fire itself and have been subsequently collected from it and put into a jar. They cannot have been part of the dish as eaten, and suggest that all the remains of the meal, both from the table and from the kitchen had to be collected and put in a jar. If this were required by a religious rite (about which nothing else is known) the collection of the food remains was carried out in a very careless manner. Otherwise, the incompleteness of the contents of the jars could not be explained.

The jars came mainly from three different localities, namely 130 (22 jars), 132 (8 jars), and the South Trench (7 jars); in all the three kinds of animal were represented, and there was no obvious difference in the proportions of the species. To sum up, therefore, it appears that the animal bones placed in the Qumrân jars were the remains of ritual meals, but not of the normal Passover, and that they were collected both from the table and from the kitchen in a somewhat careless manner.

III. Pottery Clay and Cistern Fillings

In view of the high salt content of sediments and soils of the Qumrân area, the problem as to where the pottery clay was obtained is an interesting one. De Vaux (1956 : 543, pl. XI) has shown that the pottery was indeed made locally and that the potters' workshop is known. This establishment belongs to Period Ib, *i.e.*, before the earthquake of (probably) 31 B.C. The paste was prepared in the shallow basin No. 75. The water came from the main canal by way of a conduit leading to a small cistern or well beside the potters' basin. This small cistern (" basin de décantation " B2) contained some fine sediment, too.

Samples were collected from:

1. Loc. 75, potters' basin
2. Loc. 75, potters' basin
3. Loc. B2, potters' basin
4. Cistern 58, one of the large water reservoirs
5. Lisan Marl, as the most readily available argillaceous deposit in the area.

De Vaux has already pointed out that the calcareous marl of the Qumrân Terrace is not sufficiently plastic to make a suitable paste. This material

belongs to the Lisan Marl complex—Pleistocene Dead Sea deposits—but owing to its proximity to the Mesozoic limestone cliff, it is conceivably too calcareous here. A search was made, therefore, in the desert north of the Essene Monastery. The Lisan Marls are well stratified and vary from layers of pure gypsum (alabaster) to soft limestones and marls containing gypsum and calcite, apart from clay. This appeared to be the only possible suitable raw material available (though further search may produce others), and a sample was collected about one kilometre due north from the monastery and the same distance from the limestone escarpment. Before discussing the samples from the site itself it is best to consider this sample.

Lisan Marl (*Sample* 5). 50 gms. of marl were washed in a Buchner filter with distilled water, in order to extract easily soluble salts. No less than 8 litres of water were used and 14·4 per cent. dry-weight of soluble salts was thus extracted. These proved to be present in the following proportions:—

	Per cent.
$CaCo_3$ (calcite, carbonate of lime)	3·75
$CaSO_4$ (gypsum, anhydrite)	12·92
NaCl (common salt)	31·0
$MgCl_2$ (magnesium chloride)	45·0
	92·67
Potassium salts, bromides, calcium chloride	*c.* 7·33

These figures are highly suggestive of Dead Sea salt, in which Shaw found 31·2 per cent. of NaCl and 48·25 per cent. of $MgCl_2$. This is to be expected.

The total acid-insoluble matter of unleached marl is 41·7 per cent. (using (3N) HCl). The difference between this figure and the 85·6 per cent. left after washing must consist almost entirely of calcium and magnesium carbonates in the form of limestone and dolomite dust. The total composition of the marl thus proves to be as follows:

	Unleached Lisan Marl Per cent.	*Leached Lisan Marl* Per cent.
Silica, clay, minerals	41·7	48·7
Limestone and dolomite dust	43·9	51·3
Soluble salts	14·4	—

No experienced potter would think of using this material unleached. In the leached condition, half of it consists of carbonates, a composition which would make a very bad pottery clay.

Samples 1–4. These samples were first subjected to simple mechanical analysis to test whether any one would be suitable for pottery from the point of view of grain size distribution.

	Sand			Silt and Clay (by difference)
	coarse 2·0—0·6	medium 0·6—0·2	fine 0·2—0·06	
1.	9·4	38·0	31·4	21·2
2.	0·4	7·8	44·7	47·1
3.	1·2	1·2	26·9	70·7
4.	7·8	4·2	17·6	70·4

At first sight, Nos. 3 and 4, both sediments from the main water supply, would be admirably suitable "clays" and this earlier view of mine was referred to by Père de Vaux in 1956 (p. 543). It would indeed have been a great advantage if the sediments that would inevitably accumulate in the cisterns could be used for pottery. Analysis has now proved them to be unsuitable. Chemical analysis (calculating all sulphates as $CaSO_4$, and all magnesium as $MgCO_3$) reveals the following composition:—

	$CaCO_3$	$MgCO_3$	$CaSO_4$	Silica + clay minerals (by difference)
1.	14·8	16·9	0·3	68·0
2.	18·1	16·0	2·6	63·4
3.	64·4	16·7	0·9	18·0
4.	56·0	16·0	1·9	26·1

Samples 3 and 4 turn out to consist mainly of very fine limestone and dolomite dust. This is in agreement with their derivation from the mountains, and, having been brought by fresh water, salts have been largely washed out, and the remainder of gypsum is small. But these sediments are, with over 70 per cent. of carbonates, useless as pottery clays. Sample 4 comes from one of the large cisterns; it disposes of the suggestion that cistern sediments were used to make pottery. Sample 3 comes from the potters' well, however, and since its composition resembles that of sample 4, it is evident that this small well acted as a sump to clean the water used by the potter, when preparing the clay in loc. 75, of its content of suspended carbonates. Samples 1 and 2 both come from the place where the potter was preparing the paste. Whilst they are chemically much the same (and very different from samples 3 and 4, being low in carbonates as befits good potter's clay!), sample 1 is considerably coarser than 2 as shown by the mechanical analysis. This suggests that specially selected materials, coarser

and finer ones, were mixed in loc. 75. Whether they had to be leached prior to mixing cannot be decided. It is probable. It is certain, however, that the potters' raw materials were not obtained within the precincts of the monastery but had to be collected and brought in. The sample of Lisan Marl from about 1 km. north of the monastery, which has been investigated, appears unsuitable. There must be other localities, as yet unknown, and possibly some a considerable distance away. It hardly needs mention, however, that the cistern sediments provided excellent material for the manufacture of mud-bricks, since the contained calcite and gypsum would crystallize on drying and harden.

IV. The Basins of 'Ain Feshkha

The recent excavations at the spring called 'Ain Feshkha, about 3 km. south of Qumrân, where the coastal plain of the Dead Sea fades away against the precipitous cliff of Mesozoic limestone, have revealed several buildings and structures contemporary with the Essene Monastery, at least with its Period II (de Vaux 1956 : 576).

Père de Vaux holds that this was an agricultural and industrial establishment belonging to the monastery. It is well supplied with water, which is not saline enough to be noticeable to the taste. In spite of its complete isolation in the desert, the spring is populated with fish of the genus *Cyprinodon*, probably *C. cypris*, a small species which is economically worthless and is found in similar localities everywhere in Jordan. The surroundings of the springs are covered with marsh soils which pass on drier ground into varieties of rendsina. The vegetation on wet ground is of the marsh type, trees being absent. It is strange that date palms are absent, a fact which in view of the excellent ecological conditions can only be explained by assuming destruction by man. Under undisturbed natural conditions, 'Ain Feshkha would be a thriving date palm oasis, and de Vaux's suggestion that it was exploited agriculturally is thus well founded. Fruit, vegetables (and possibly grain on a small scale) could have been produced here with ease.

Four shallow rectangular basins form part of the establishment.[1] All received water by way of distributing channels designed with considerable care. Basin 26 is independent, but Nos. 24, 25 and 27 form a unit. Nos. 24 and 27 received water direct, but it appears that 25 was fed from 24 and 27. Nos. 25 and 27 are, moreover, equipped with rectangular sumps. That these elaborate basins served some important purpose is evident. They are quite unlike cisterns and too shallow. Similarly, their use as baths is out of the question. The impression that they served some industrial purpose

[1] *See* de Vaux, 1959, received after the completion of this paper. In it, the excavator puts forward his tannery hypothesis but emphasizes the many difficulties it encounters.

has led to the suggestion that they represent a tannery, particularly in view of the large amount of parchment that appears to have been needed by the scribes of the monastery. An alternative is that they were used for fish breeding. The Galilean Comb or musht (*Tilapia galilæa*), which is frequent in the entire Jordan system, would lend itself excellently to such treatment. Being vegetarian, it could easily be fed on cut-up plant matter as is done with related species in Africa today. Whilst these two views deserve serious consideration and their *pros* and *cons* can to some extent be argued from the evidence, there are bound to be other alternatives that have not yet been thought of.

Let us approach the problem from the angle of the sediments contained in the basins. The following series has been studied.

Sample

1a. Basin 26 upper level.
1b. Basin 26 lower level.
5. Basin 24, on the floor.
2. Sump in 27, top.
4. Sump in 27, bottom deposit.
3. Sump in 25.
6. Water channel leading to No. 27.

The most obvious test to apply is the determination of organic matter. Had the basins been used for the preparation of skins, the sediments were bound to be rich in organic materials. The results are as follows:—

Sample

1a. 0·072 per cent.
1b. 0·028 per cent.
2. 0·004 per cent.
3. 0·012 per cent.
4. 0·018 per cent.
5. 0·038 per cent.
6. 0·74 per cent.

These values are extraordinarily low, and it is clear that the sediments cannot be derived from the preparation of organic materials. The only moderately high value is sample 6 which comes from the supply channel upstream from the basins. If the organic matter content were due to such process as preparing skins, sample 6 should be lowest of all in organic matter. In fact, the value decreases in the basins with the distance from the source. Samples 6, 5 and 3 might be expected to show an increase in organic matter in accordance with the tanning hypothesis, in fact they show progressive decrease. Two observations thus emerge, namely (*a*) that there is very little organic matter in the basin sediments, and (*b*) that there is less in the basins than in the supply channel bringing the water.

From this it may be concluded that all organic matter found in the basins was brought with the water from outside, and that inside them it was partly destroyed, unless most of it was lost by sedimentation in the channels. Dr. Cornwall pointed out to me that the organic matter of Sample 6 behaved exactly like ordinary soil humus, it flocculated on acidification, peptized at pH 7, and that it looked much like crumbs from the A-horizon of a rendsina, the type of soil common in the neighbourhood. It may be assumed, therefore, that the organic matter was brought into the basins in the form of a suspension of soil matter, a process exactly like that which brought calcareous dust into the cisterns of Qumrân.

This interpretation can be checked in various ways. Chemically, tanning substances should be absent and phosphates as low as in calcareous soils of this area. The usual tests were made for the presence of tannins, with ferric chloride and lead acetate; they were wholly negative. Phosphate determinations gave:

Sample 6 (supply channel)	0·0055 per cent. P_2O_5
Sample 5 (upper basin)	0·0029 per cent. P_2O_5

There is again less in the basin than in the supply channel. It would be otherwise if the basins had been used for the preparation of skins. In any case, the absolute amounts are very low.

The second check was applied by means of the microscope. No trace of hair was found, which is usually abundant in tanning trenches. The acid-insoluble matter of the samples contains quartz, flint fragments and silty aggregates derived from soil. In addition, minute fragments of charcoal are present in the channel (sample 6) and in the large basins Nos. 24 and 26. With work going on in the neighbourhood, fires would have been present and fragments of charcoal carried by wind and water. No macroscopic plant-remains were found, and a search for diatomacea had negative results.

The largely negative results of this investigation suggest that the water in the basins was not stagnant. On the contrary, special efforts appear to have been made to keep the water fresh, clean and moving.

At this point it may be worth while to consider the preparation of parchment and the suitability of the basins. These are from the practical point of view much too large for any process of preparing skins, whether by tanning with tannin-containing substances or in one of the many other ways in use. It is always important to keep the liquid concentrated, and everything at 'Ain Feshkha points to the contrary. Parchment, incidentally, is not tanned. It is dehaired skin (urine being frequently used for this purpose) which is stretched on a frame and rubbed smooth with sand or pumice after an application of lime. One thus comes to the conclusion that for the manufacture of parchment or leather, these large basins were neither necessary nor suitable. The problem of what they were used for remains thus unanswered. In the writer's opinion the suggestion that they were

used for raising fish for the table has much in its favour. The basins are large enough to hold considerable numbers of fair-sized fish which could be fed artificially. The constant flow of the water would prevent it from becoming foul. The arrangement of basins 24, 25 and 27 may well have served to sort fish into sizes, and the sumps would have made it possible to empty the basins periodically to collect large fish without destroying the immature ones.

In conclusion I wish to express my thanks to Père R. de Vaux for allowing me to undertake these interesting studies, and to Dr. I. W. Cornwall for his co-operation in the laboratory.

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THE RIVER OF EGYPT (NAḤAL MIZRAIM)[1]

By H. Bar-Deroma

I. Introductory

In the seven references (or so) to the " river of Egypt " in various books in Scripture, that river is described as the extreme south-western frontier of the land of Israel. It follows that the " river of Egypt," by its very nature, separated the territory of Israel from that of Egypt. In other words, the river, according to Scripture, constituted the clear and unquestionable line of demarcation between the two lands.

Nevertheless, a number of authorities have erroneously and under the impact of ill-founded prejudices, tried to identify that river with Wadi el-'Arish, which is neither on the boundary of Egypt, nor on that of the land of Israel, and has none of the features of a boundary line. That the voices locating the " river of Egypt " in Wadi-el-'Arish should have pressed their erroneous thesis after the Sinai campaign is all the more surprising, because any who saw that wadi cannot possibly identify it with the biblical " river of Egypt."

Furthermore, as a rule, error breeds more and greater error, and the erroneous identification of the " river of Egypt " with that wadi necessarily entails the distortion of the continued course of the southern boundary, the " shifting " to a wholly improvised location, some 50 km. south of Beersheba, of the Zin desert, Kadesh Barnea' and Ma'aleh 'Akrabbim, and the virtual cutting off from the Holy Land of the whole of the Sinai Peninsula, the Suez and Akaba Gulfs and Wady 'Arabah, in other words, *the whole of the Negev*, which is as much an integral part of the Holy Land as Judæa and Galilee.

The geographical error does not stop at that. Such adjustment and co-ordination of the boundary line in the south necessitates the further distortion of the northern and eastern boundaries as well, and the consequent dwindling to insignificant dimensions of the territory of the Holy Land—in absolute disregard of Scripture.

It would be no exaggeration to say that the erroneous geographical location of the " river of Egypt " must inevitably lead to the absolute

[1] This interesting paper, arguing for the identification of the biblical " river of Egypt " with the Pelusiac branch of the Nile delta rather than with the Wadi el-'Arish, is presented here solely as a contribution to the historical geography of the Old Testament, and not as having any relevance for the delimitation of political frontiers today.—Ed.

distortion of so many biblical passages which obviously belie any such speculations.

Fantastic though these erroneous speculations may appear to the student, it must be stated with regret that they have been universally accepted as scientific truth, and have been embodied in a large number of maps and cartographical surveys, which form part of text-books.

These alarming results make it all the more essential to analyse the question at some length in the light of absolutely verifiable scientific data. For the question " Where lies (or runs) the ' river of Egypt ' ? " is not confined to the narrow limits of this particular water-course, but is one that embraces the whole gamut of the historical geography of the Holy Land. The correct reply to the question is bound to influence deeply our understanding of the Bible as well as of the Land of the Bible.

II. Two Classes of Boundaries

Let us, then, dwell on some basic facts. The boundaries of the land of Israel, which are registered in Scripture, are of two distinct classes:

(*a*) Geographical Boundaries—and they form the majority—which mark only its geographical position by means of distinct geographical features, i.e., seas, lakes, rivers, deserts and mountains, which are said to separate the Land of Israel from the important countries adjacent to it.

Characteristic of such boundaries is that described in the passage in Genesis xv, 18, about God's covenant with Abraham:

> " In the same day the Lord made a covenant with Abram saying, unto thy seed have I given this land, from the *river of Egypt* unto the great river, the river Euphrates ";

and also the reference in Exodus xxiii, 31:

> " And I will set thy bounds from the Red Sea even unto the sea of the Philistines, and from the desert unto the river . . . "[1]

(*b*) Political Boundaries—a small minority—a complete account of the boundary line running from locality to locality round about, the way in which boundaries, which separate territories of different political sovereignties, are set out.

To these belong above all those described in the elaborate passage in Numbers xxxiv, 2–12. Inasmuch as that copious statement of political boundaries is most characteristic of such expositions, it calls for reproduction *in extenso* in this study:

[1] See also Num. xiii, 21; Deut. i, 7; iii, 8; xi, 24; Josh. i, 4; xi, 16–17; I Kings v, 1, 4; Mic. vii, 12; Psalms lxxii, 8, etc.

"Command the children of Israel, and say unto them, When ye come into the land of Canaan; this is the land that shall fall unto you for an inheritance, even the land of Canaan with the coasts thereof: then your south quarter shall be from the *wilderness of Zin* along by the coast of Edom, and your south border shall be the outmost coast of the *salt sea* eastward: and your border shall turn from the south to the *ascent of Akrabbim*, and pass on *to Zin*: and the going forth thereof shall be from the south to Kadesh Barnea, and shall go on to Hazar-Addar, and pass on to Azmon: and the border shall fetch a compass from Azmon unto the *river of Egypt*, and the goings out of it shall be at *the sea*. And as for the western border, ye shall even have the *great sea* for a border: this shall be your west border. And this shall be your north border: from the great sea ye shall point out for you *mount Hor*: from *mount Hor* ye shall point out your border unto the entrance of Hamath; and the goings forth of the border shall be to Zedad: and the border shall go on to Ziphron, and the goings out of it shall be at Hazar-Enan; this shall be your north border. And ye shall point out your east border from Hazar-Enan to Shepham: and the coast shall go down from Shepham to Riblah, on the east side of Ain; and the border shall descend, and shall reach unto the side of the *sea of Chinnereth* eastward: And the border shall go down to *Jordan* and the goings out of it shall be at the *salt sea*; this shall be your land with the coasts thereof round about."[1]

III. All Boundaries are natural

All the geographical boundaries are natural boundaries, that is, such as have been destined by nature to form boundaries to the land. This basic fact is so obvious that it hardly calls for further proof, and their very names import the fact that they are natural boundaries.

Equally natural were the so-called political boundaries described in Numbers.

The mere enumeration of a series of perfectly natural geographical features about these boundaries (*e.g.*, the Dead Sea, the Ma'aleh 'Akrabbim Pass, the Zin desert, the River of Egypt, the Great Sea, Mount Hor, Lake Chinnereth and the Jordan) leaves no room for doubt as to the natural character of the boundaries in general. This particular evidence is indeed a pointer to the other features of the boundary register, which are not so obvious, but which may be rightly assumed to supplement the "natural" character of such boundaries.

It is, therefore, permissible to draw our deductions from this exposition of the boundaries, by formulating the following rule:

[1] Joshua xv, 1–12 (the boundaries of the tribe of Judah); xvi–xix (the other tribes); as well as Ezek. xlvii, 14–20, also belong to this class.

The ancient authorities acknowledged as boundaries only border lines that were quite specific in their *natural* character as boundaries, but refused to acknowledge ambiguous and abstract lines, similar to the political boundaries of modern times, especially those of Israel—boundaries of this kind have won acceptance in our time, but could never have existed in antiquity.

IV. All Lists are Identical

It follows from the above that inasmuch as all boundaries of the Holy Land listed in the Bible are natural boundaries—those of a geographical as well as those of a political character—they are inevitably identical too, all of them, without exception; nature does not change frequently, and seas, rivers, mountains, valleys and deserts remain unchanged indefinitely.

In other words: the boundaries stated in Numbers xxxiv (or Joshua xv, Ezekiel xlvii, etc.) are exactly the same as those in the so-called *Berith Bein Habetharim* of Genesis xv, namely, from the Nile up to the Euphrates and beyond.

These boundaries of Genesis were evidently to be accepted as the sacrosanct and absolutely unchangeable boundaries of the country. As a result, the political boundaries registered in Numbers can by no means essentially differ from those of the geographical character marked in Genesis, which are the eternal boundaries of the land of Israel promised to Abraham, and confirmed by oath and by covenant—there are no less than 35 distinct references in Scripture stressing the fulfilment of that oath, and the abiding validity of the famous covenant.[1]

Nevertheless, those in quest of yet further evidence to convince them of the absolute identity of all lists of boundaries, may well find supporting evidence in several other references, as may be seen from the following:

(*a*) The preamble to the exposition of the boundaries in Numbers says:

> " When ye come into the land of Canaan; this is the land that shall fall unto you for an inheritance, even the land of Canaan with the coasts thereof ".

To put it in another way, these boundaries are the boundaries of the land of Canaan, of which, too, the river of Egypt is the southern boundary. But the boundaries of the land of Canaan had already been described in Genesis x, 19, as—

[1] *E.g.*, Gen. xxvi, 3; xxxv, 12; l, 24; Ex. ii, 24; vi, 4, 5, 8; xiii, 5, 11; xxxii, 13; xxxiii, 1; Lev. xxvi, 42, 44–45; Num. xiv, 16, 23, 30; xxxii, 11; Deut. i, 8, 35; iv, 31; vi, 10, 18, 23; vii, 8, 9, 12; viii, 1, 18; ix, 5, 10, 11; xi, 9, 21; xix, 8; xxvi, 3, 15; xxviii, 11; xxix, 12; xxx, 20; xxxi, 7, 20, 21, 23; xxxiv, 4; Josh. i, 6, and elsewhere, especially Jer. vii, 7; Psalms cv, 8–12; I Chron. xvi, 15–19.

" And the border of the Canaanites was from Sidon, as thou comest to Gerar, unto Gaza; as thou goest unto Sodom, and Gomorrah, and Admah, and Zeboim, even unto *Lasha*."

Now, it has been proved[1] beyond doubt that *Lasha* was situated beyond the Euphrates, and that Gerar was close by the Nile river. This means that the " Numbers boundaries " and the " Genesis boundaries " were identical and complete, and both postulate the country stretched from the river of Egypt unto the great river Euphrates.

(*b*) In the preamble to the exposition in Ezekiel xlvii, 13–14, where the boundaries strictly coincide with those in Numbers, it is specifically stated that—

" . . . This shall be the border, whereby ye shall inherit the land according to the twelve tribes of Israel: . . . *concerning the which I lifted up mine hand to give it unto your fathers* . . . "

In other words, the boundaries delineated by Ezekiel (and therefore those in the Book of Numbers) are the very boundaries of the Book of Genesis.

(*c*) Again, Nehemiah attests to the very same conclusion when he says:

" . . . and promisedst them that they should go in to possess the *land which thou hadst sworn to give them* " (Neh. ix, 15),

and continues to say:

" . . . *and broughtest them into the land, concerning which thou hadst promised to their fathers,* that they should go in to possess it . . . " (Neh. ix, 23–24),

and even more emphatically:

" Now therefore, our God, the great, the mighty, and the terrible God, who *keepest covenant* . . . " (Neh. ix, 32).

Joshua had given prior confirmation to this when he stated (xxi, 43–45):

" And *the Lord gave unto Israel all the land which he sware to give unto their fathers;* and they possessed it, and dwelt therein . . . *There failed not aught of any good thing* which the Lord had spoken unto the house of Israel; all came to pass."

To go back again to centuries later, this was precisely what Nehemiah said:

" . . . and madest a covenant with him to give him the land of the Canaanites, the Hittites, the Amorites, and the Perizzites, and the Jebusites, and the Girgashites, ... *and hast performed thy words, for thou art righteous* " (Neh. ix, 8).

The Rabbis of the Midrash (*Bamidbar Rabba*, 23) had thus good reason to labour in some detail their conception of the difference between a human

[1] H. Bar-Deroma, *Wezeh Gevul Ha'areṣ*, pp. 22–32.

and a divine promise, when they said that, unlike ordinary mortals who might reject old lovers when they found new ones, the Almighty God could not possibly " go back on the promise and on the oath to the early Fathers . . . ".

V. The River of Egypt a Real River

The river of Egypt, marked by the Bible as the south-westernmost boundary of the land, was not only, as its very name implies, a *natural* boundary, but also the very real and widely acknowledged boundary, namely, a formidable stream, which separated very effectively the land of Israel from the land of Egypt.

Inasmuch as the Bible designates it as the river of *Egypt*, and *not* the river of Canaan, or the river of the Negev, it follows that it was nearest to Egypt.

It also follows that it formed the main water artery of *Egypt*, belonging to that country exclusively, and also symbolizing it, for it is so specifically designated " river of Egypt ", a designation to be found only in Genesis xv, 18 (" the stream of Egypt "), Joshua xiii, 3 (" the Shihor which is in front of Egypt "), and Amos viii, 8 (" the flood of Egypt "), all of which designations apply to the Nile only. *Of no other river or stream is the political affiliation attached to the designation and made part of it in any other Biblical reference.*

VI. The Nile is the Boundary and Symbol of Egypt

The land of Egypt has no other river but the Nile and its tributaries, and no other boundary but that river.

This was categorically acknowledged by Herodotus when he described Egypt as " The Gift of the Nile " (Herodotus ii, 5), and Egypt he regarded only as the land that was " crossed and irrigated by the Nile " (ii, 18).

This was also the view of Strabo (*Geog.* xvii, 1, 4, Loeb Classical Library) who said:

> " . . . In short, Aegypt consists of only the river-land, I mean the last stretch of river-land on either side of the Nile . . . "

and again (xvii, 1, 5):

> " . . . Now the early writers gave the name Aegypt to only the part of the country that was inhabited and watered by the Nile, beginning at the region of Syene, and extending to the sea; but the later writers down to the present time have added on the eastern side approximately all the parts between the Arabian Gulf and the Nile ".

Again, he said:

> " . . . The sea coast from Pelusium as one sails towards the west as far as the Canobic mouth, is about 1300 stadia (or about 173 miles), the ' Base ' of the Delta as I have called it " (xvii, 1, 6).

In his reference to the city of Pelusium he says:

> " . . . Here, too, Aegypt is difficult to enter, I mean from the eastern regions about Phoenicia and Judea, and from the Arabia of the Nabateans, which is next to Aegypt, these are the regions which the road to Aegypt traverses. The country between the Nile and the Arabian Gulf is Arabia, and at its extremity is situated Pelusium; but the whole of it is desert, and impassable for an army " (xvii, 1, 21).

Pliny is even more specific and unequivocal; for here is what he says:

> " The inhabited country next to Africa is Egypt, which stretches southwards into the interior to a point where the Ethiopians border it in the rear. The boundaries of its lower part are formed by the two branches of the Nile embracing it on the right and on the left. The Canopic mouth separating it from Africa and the Pelusiac from Asia, with a space of 170 miles between the two mouths. This has caused some authorities to class Egypt as an island, because the Nile divides in such a manner as to produce a piece of land shaped like a triangle; and consequently many have called Egypt by the name of the Greek letter Delta . . . " (Pliny, *N. H.*, v, 8, 48).

Continuing, our author says:

> " . . . Beyond the Pelusiac mouth of the Nile is Arabia, extending to the Red Sea and to the Arabia known by the surname of Happy and famous for its perfumes and its wealth " (v, 12, 65).

The city of Ra'amses, or Pelusium,[1] was situated at the estuary of the Pelusian water course of the Nile. It was the port of entrance into Egypt from the East, as may be inferred from the Exodus, Ra'amses being the starting point (Ex. xii, 37; Numb. xxxiii, 3, 5), and supported by the above-quoted passages from Strabo's writing, and from certain references to it in Josephus's work[2].

Migdol, Pi-hahiroth and Baal-Zephon, too, were situated somewhere in the east of Egypt. From Jeremiah xliii, 7–9, we gather that Tahpanhes was the easternmost town of Egypt. This is identical with Daphne, in which Herodotus (ii, 141), locates the entrance into Egypt, the present Tell-Dephenneh, about 10 km. to the west of Kantara, close to the old bed of the Pelusian arm, on road leading from Pelusium.

The Nile was regarded not only as Egypt's boundary, for several ancient authorities view it as the boundary between Asia and Libya, or Africa, a view which continued to be maintained well into the sixth century, in Procopius' time (*Persian Wars* viii, 6). Others held that the Gulf of Suez

[1] So Targ. Jon. on Gen. xlvii, 11; Ex. i, 11; xii, 37; Num. xxxiii, 3, 5; the fragmentary Targum on Ex. i, 11; Num. xxxiii, 3. The Egyptians, too, locate Pi-Ra'messu, i.e., Ra'amses, in the vicinity of Shihor, a name applied to the Pelusian branch of the Nile.

[2] *Wars* i, 8, 7; 9, 3–4 and elsewhere.

and the Red Sea were the boundaries between those two continents (Strabo, i, 2, 28; i, 4, 7).

It is not without interest to note in this connection that the Bible, too, sometimes determined the Nile (or *Shihor Mizraim*, or the river of Egypt) as the boundary of the land of Israel towards Egypt, and sometimes the Red Sea as such boundary.

Little wonder therefore that the Nile was generally accepted and acknowledged as the symbol of Egypt:

> " Who is this that cometh up as a flood (Heb. *ye'or*), whose waters are moved as the rivers? Egypt riseth up like a flood (*ye'or*), and his waters are moved like the rivers: and he saith, I will go up, and will cover the earth . . . " (Jeremiah xlvi, 7–8). (*Cf.* also Ezekiel xxix, 3–5, where Pharaoh is compared to the " great dragon that lieth in the midst of his rivers," and Egypt to the " fish of thy rivers ").

The Midrash (*Tanḥuma*, *Wa'eira*, 13; *Shemoth Rabba* ch. 9) puts it this way:

> " . . . Because Pharaoh and the Egyptians were *worshipping the Nile*, the Holy Blessed One said (to Moses): ' Strike first his God and then strike him'."

To Strabo the Nile was:

> " the best-known and most marvellous thing in Aegypt, and decidedly the most worthy of mention and of historical record—and the same applies to its inundations and its mouths."

And again:

> " . . . And just as those who visit Aegypt learn no fact concerning the country before they learn the nature of the Nile, because the natives cannot tell foreigners anything more novel and more remarkable about their country than these particulars (for the nature of the entire country becomes quite clear to one who has learned about the river), so also those who hear about the country at a distance learn this fact [*viz.*, the tide of the river] before anything else . . . " (i, 2, 22; i, 2, 29).

To sum up: the Nile is the river of Egypt, in every respect, and the river of Egypt referred to in Genesis is nothing but the Nile. Indeed, even Homer designated it " river of Egypt ", and it was not until Hesiod (in the 7th century B.C.E.) that it came to be designated as " Nile " (Strabo, i, 2, 22).

VII. Nehar Mizraim, Ye'or Mizraim, Shihor Mizraim are Identical

Inasmuch as the Nile shoots off, in its northward course from Cairo, into several arms and channels, these too (like the stream of Egypt in the Genesis record) are designated " rivers of Egypt ".

" . . . And the Lord spake unto Moses, Say unto Aaron, Take thy rod, and stretch out thine hand upon the waters of Egypt, upon their streams, upon their rivers, and upon their ponds, and upon all their pools of water . . ." (Exodus, vii, 19; viii, 1).

While Isaiah describes the destruction of Egypt as follows:

" . . . And the waters shall fail from the sea, and the *river* shall be wasted and dried up. And they shall turn the *rivers* far away; and the *brooks* of defence shall be emptied and dried up; the reeds and flags shall wither " (Is. xix, 5–6).

It is clear from the recurrent reference of *rivers*, *streams*, *brooks* (all in plural) that these verses could only mean the channels and the streams that shoot off from the Nile. As *neharoth* (rivers, streams) precedes *ye'or*, it may well import the *principal* flow, while the others may import artificial channels[1].

On the other hand, it is also conceivable that there is little more than a purely dialectical difference in connotation between the two, and both denote the whole network of water courses, those of a natural as well as those of an artificial course, as may be construed from the frequent Aramaic translations of Onkelos and Jonathan who usually render *ye'or* by *nahara*.

Neither is there a specific *ye'or* for Egypt alone, for the Tigris also is designated *ye'or* (Dan. xii, 5, 6, 7), since *nahar* and *ye'or* mean just the same. This is clear from passages in Isaiah xxxiii, 21 and Job xxviii, 9–11.

This view was forcefully affirmed by Naḥmanides, in his remarks on Rashi's commentary on Genesis xli, 1.

Be this as it may, *ye'or* is not the exclusive designation of the Nile, and did not apply to that river alone. A proper noun could not possibly be expressed in plural form, and especially is this true of the Nile, the one and only river of Egypt, that has no match anywhere in the world.

Consequently, *ye'or*, like *nahar*, designates flowing water, whether a river, or a stream, or a channel, both natural and artificial, both large and small. Even *ye'or* with the article (" the *ye'or* ") could only denote a branch, or channel, or at most, one of the largest of the Nile's offshoots. Therefore, when the Bible seeks for more precision, or intends to describe the Nile in its entirety, it designates it *ye'or Mizraim* (Amos, viii, 8; ix, 5, in A.V. " the flood of Egypt "), or *nehar Mizraim* (the stream of Egypt), as in Genesis xv, 18.

But it is sometimes also termed *Shiḥor Mizraim*, or " Shihor which is before Egypt " (I Chronicles xiii, 5; Joshua xiii, 3), for *Shiḥor*, too, is a designation of the Nile, as we gather from Isaiah xxiii, 3, where it is synonymous with *ye'or*:

" And by great waters the seed of Shihor, the harvest of the river (*ye'or*) is her revenue . . . ",

[1] So Rashi on Ex. vii, 19; see also Gen. xli, 1, etc.

and in Jeremiah ii, 18, it appears as a worthy parallel to the Euphrates:

> " And now what hast thou to do in the way of Egypt, to drink the waters of Shihor? or what hast thou to do in the way of Assyria, to drink the waters of the river (*nahar*)? "

These two texts identify Shihor as a great river, as great as *ye'or* (" the *great* waters "), which symbolizes Egypt, just as the other great parallel river symbolizes Assyria[1]; and there is no river that symbolizes Egypt other than the river of Egypt, the *ye'or*, the Nile.

The exact meaning and identity of Shihor have already been definitely established. As Gardiner has shown in his detailed study, " The Site of the Delta Residence of the Ramessides ", in *JEA*, vol. **5,** the word *Shiḥor* is a composite of two ancient Egyptian words, *ši*, which meant water, and *Hor*, which meant the God of the East, or the God of the rising sun, and it used to designate one of the Nile's arms from the east, or more simply, the Pelusian stream. It would appear that in course of time its connotation widened to the whole of the Nile, since the Pelusian arm was indeed one of the largest, and perhaps the largest, of the Nile's offshoots.

The Bible had thus good reason to mark it as the political south-western boundary of the land of Israel (Josh. xiii, 3) as well as its ethnographic boundary (I Chronicles, xiii, 5), even as (Gen. xv, 18) the river of Egypt was marked as the geographical boundary of the land; for these texts referred to all intend the Pelusian stream which separated the Delta of Egypt from the adjacent desert to the east thereof, that desert having stretched outside the territory of Egypt proper, and having been named by classical geographers as " Arabia ".

There are four other Biblical references (Exodus xxiii, 31; Micah vii, 12; Zechariah ix, 10 and Psalms lxxii, 8) defining the " Red Sea " as the south-easternmost tip of the land of Israel; and there could have been no more natural and logical sequel to the Red Sea than the Pelusian branch whose course flowed at a distance of only 80–90 km. from the Red Sea, a distance which must have therefore contracted through the interposing of the two Bitter Lakes and Lake Timsaḥ and Lake Belaḥ, a series of geographical features that so thoroughly supplemented the border line between the Gulf of Suez and the Pelusian stream.

VIII. *Naḥal Mizraim, Shiḥor* and Nile Identical

There can be no possible doubt that the river so often referred to in the Bible as the " river of Egypt," and so often described and defined as the south-western boundary of the land, even as the boundary of Egypt[2], is both a very natural boundary and a very real river, one of the main water

[1] Isa. viii, 7.

[2] II Kings xxiv, 7.

arteries of Egypt. It is no other than the Nile, i.e., the Pelusian Stream, the *Shiḥor*.

But that impressive evidence notwithstanding, there are some who persist in identifying the " river of Egypt " with Wadi el-'Arish, and although the arguments in support of this thesis are flimsy and untenable, they call for a full and dispassionate presentation of the facts which alone will rebut their thesis.

Now, in seven biblical references the river is named " river of Egypt " (*naḥal Mizraim*) in full, and twice (in Ezekiel xlvii, 19; xlviii, 28) it is briefly designated " river " (*naḥal*).

(1) In the first reference, the only one in the Pentateuch (Numbers xxxiv, 5) the text says:

" And the border shall fetch unto the ' river of Egypt ' . . . ".

Both Jonathan and the Targum Yerushalmi translate it " the Nile of Egypt ". According to Targum Jonathan and Yerushalmi, the " river of Egypt ", like the Shihor, and the stream of Egypt (Genesis xv, 18), was the Nile. Rashi[1] and David Kimchi[2], too, adhered to the same view without reservation, as did almost all rabbinical authorities ever since[3]. No other theory is possible, for, as has already been confirmed, there is not the slightest difference between the boundaries in the Book of Numbers and those of the Book of Genesis, and both statements of the boundaries conform to the exact facts.

It follows that the river of Egypt in Numbers is exactly the same as the " stream of Egypt " (*nehar Mizraim*) in Genesis, namely, the Nile, and for this reason alone it is simply inconceivable that the Bible should designate a dried-up wadi as the river of Egypt, and all the less so if such wadi ran not through the mainland of Egypt, and could claim only a later political, not a natural, affiliation with the mainland of Egypt, even though it is one of the largest wadis in the Negev.

The Septuagint translated this χειμάρρουν Αἰγύπτου, from χειμάρρος, meaning a torrent, or a flood of water, a stream of rain and melted snow, in the Classics often accompanied by ποταμός as a synonym.

(2) In Joshua xv, 4 it is said of the border of Judah:

" . . . From thence it passed toward Azmon, and went out unto the river of Egypt . . . ".

Jonathan does not identify the proper nouns in his translation of the prophets, nor does Onkelos (Pentateuch).

[1] Commentary on Num. xxxiv, 3; and further on Joshua xiii, 3; see also Isa. xxiii, 3; Jer. ii, 18.

[2] Commentary on Josh. xiii, 3.

[3] Except Sa'adiah Gaon and his follower the Ridbaz; *cf.* the *Responsa* of Rabbi Eliyahu of Cairo quoted in my *Wezeh Gevul Ha'areṣ*, pp. 100–102.

The Greek translation in Septuagint reads *φάραγγος Αἰγύπτου*, which derives from the Greek word *φάραγξ*, connoting a water course, channel, etc. This statement of the boundaries in Joshua is in substance and phraseology the identical statement of the Book of Numbers with but slight additions.

(3) Again, in the list of settlements in Western Judaea (Joshua xv, 45–47) the river of Egypt is mentioned once more:

> " . . . Ekron with her towns and her villages: . . . Ashdod with her towns and her villages, Gaza with her towns and her villages, unto the river of Egypt, and the great sea . . . "

Here again, the Greek translation reads—as does that in Numbers—*χειμάρρου Αἰγύπτου.*

On the other hand, in the preceding list of the towns and villages that had not yet been occupied (xiii, 2–3), the very same towns and villages are mentioned, but instead of the river of Egypt, the Shihor is being named there as the boundary, together with its location " before Egypt ". We there read that—

> " This is the land that yet remaineth: all the borders of the Philistines, and all Geshuri, from *Shihor which is before Egypt*, even unto the borders of Ekron northward, which is counted to the Canaanite: five lords of the Philistines; the Gazathites, and the Ashdothites, the Eshkalonites, the Gittites, and the Ekronites; also the Avites . . . ".

In other words, this text specifies the exact identity and location of the River of Egypt, by telling the reader clearly that it is none other than the Shihor, or the Pelusian tributary of the Nile, that bounds Egypt on the east.

It is pertinent to add in this connection that the lists in Joshua and Numbers are, in effect, lists of a political nature.

(4) Another Biblical reference to examine is that in II Kings xxiv, 7, where the River of Egypt is correlated to the Euphrates:

> " . . . And the king of Egypt came not again any more out of his land; for the king of Babylon had taken from the *river of Egypt* unto the river Euphrates all that pertained to the king of Egypt ".

It is clear that the river of Egypt appears here as an equal to the Euphrates and as the border of the mainland of Egypt. We have already seen from the evidence of Pliny, Strabo and Herodotus that the eastern border of Egypt was identical with the course of the Pelusian stream, and that the country beyond that river was already designated " Arabia ".

The Septuagint rendering of this expression, as of that in Numbers xxxiv, 5, and Joshua xv, 47, is *χειμάρρου Αἰγύπτου.*

(5) Still earlier, at the time of the inauguration of the First Temple by King Solomon, Scripture says (I Kings viii, 65):

> " . . . And at that time Solomon held a feast, and all Israel with him, a great congregation, from the entering in of Hamath unto the river of Egypt, before the Lord our God, seven days and seven days, even fourteen days . . . "

The Septuagint rendering of this reads ἕως ποταμοῦ Αἰγύπτου, namely, to the *stream* of Egypt!

(6) This recurs in the parallel version of II Chronicles vii, 8:

> " . . . Also at the same time Solomon kept the feast seven days and all Israel with him, a very great congregation, from the entering in of Hamath unto the river of Egypt . . . ",

for which the Septuagint rendering reads, as in Josh. xv, 4, φάραγγος Αἰγύπτου.

In these last two essentially geographic registers, compared with I Chr. xiii, 5, the text itself discloses the true nature of the " river of Egypt ", for in I Chr. xiii, 5, in the description of the feast held by David, when he carried the ark of God from Kiriath-je'arim to the City of David, is said:

> " So David gathered all Israel together, from *Shihor of Egypt* even unto the entering of Hamath, to bring the ark of God from Kiriath-je'arim."

All these texts referred to the same thing, i.e., the Jewish population in its entirety, from the northernmost to the southernmost end of the land; if " the entering in of Hamath " at the northernmost end remained unchanged in Solomon's days, as compared to what it was in the time of his father David, all the more reason for believing that no change occurred in the southern border, and certainly none in the early days of his reign. This must lead to the conclusion that:

> The " river of Egypt " in I Kings and II Chronicles is the very same Shihor of I Chronicles, the identical Pelusian stream of the Nile, as is clearly attested in Scripture, both here and in Joshua (xiii, 3 = xv, 47)—evidences so impressive, true and precise that we can ill afford to ignore them.

Indeed, Rav Joseph, in his Aramaic translation of Chronicles, renders both *naḥal Mizraim* and Shihor as " the Nile of Egypt ".

(7) The last mention of the river of Egypt in Scripture occurs in Isaiah xxvii, 12, 13, which says:

> " . . . And it shall come to pass in that day, that the Lord shall beat off from the channel of the *river*, unto the *stream of Egypt*, and ye shall be gathered one by one, O ye children of Israel. And it shall come to pass in that day, and the great trumpet shall be blown, and they shall come which were ready to perish in the land of Assyria, and the outcasts in the land of Egypt, and shall worship the Lord in the holy mount at Jerusalem . . . "

This time the Septuagint rendering reads ἕως Ῥινοκορούρων, a new designation altogether, of which there is no previous record.

Here again the *naḥal Mizraim*, the stream, or river, of Egypt, is a counterpart of the Euphrates.

But quite apart from this parallelism, which proves at all events that the " river of Egypt " was quite a river, something like the Euphrates, and not a dried-up wadi, not even a large one like Wadi el-'Arish, we must deduce from the content of this text that the " river of Egypt " was none other than the Nile (i.e., the Pelusian branch of it).

For this particular text clearly speaks of the ingathering of the exiles from Assyria and Egypt:—

> " . . . and they shall come which were ready to perish in the land of Assyria, and the outcasts in the land of Egypt."

Even as " the river " stood as the symbol of Assyria, so was the " river of Egypt " the symbol for Egypt. But no one who saw Wadi el-'Arish with his own eyes, that dried-up wadi running through the wilderness of the desert, and indeed submerged by it, could possibly conceive it as the symbol for the fertile land of Egypt which was compared by Genesis xiii, 10 to " the garden of the Lord," for it stretched among an avalanche of river waters. On the other hand, what population could have existed in the Wadi el-'Arish district, and how could one possibly speak of them as " outcasts in the land of Egypt ", while the wadi is so much closer to Gaza and Beersheba than it is to Egypt?

To sum up, in seven biblical references the " river of Egypt " is specifically mentioned by name:

In four of these references it is analogous to the river Euphrates: twice specifically (II Kings, xxiv, 7; Isaiah xxvii, 12), and two other times (I Kings viii, 65; II Chronicles vii, 8) by implication, for " Hamath " therein mentioned is in close proximity to the Euphrates.

Yet another two times (Josh. xiii, 3 = xv, 47; I Kings viii, 65 [II Chr. vii, 8] = I Chr. xiii, 5) Scripture identifies it with Shiḥor.

In one reference (II Kings xxiv, 7) it is described as the boundary of the mainland of Egypt.

In Genesis xv, 18, it is designated (in M.T.) as the stream of Egypt.

The Septuagint, too, rendered the *naḥal Mizraim* (" river of Egypt ") by χειμάρρος (three times), or φάραγξ (twice), both being the Greek equivalents of " water-course," and once more simply " river " (ποταμός).

This means that on six different occasions the Septuagint expressed the belief that the " river of Egypt " was a very real river of running water, and only once, in Isaiah, they introduced an entirely new and obscure terminology—Rhinocorura—without however stating its exact meaning and approximate geographical location.

So striking was that particular rendering that even Jerome felt impelled to observe here that the name did not occur in the original, and the

Septuagint added it off their own bat, an observation which shows that he, too, was indeed astounded by this innovation.

At all events, it is quite clear that this one rendering is not the authoritative rendering of the native Jewish scholars, or Jerome would certainly have mentioned it, as he did in connection with other passages referring to northern boundary places:

" And the Hebrews say ", or " And the Hebrews designate ".[1].

IX. Wadi el-'Arish not the River of Egypt

As against this imposing array of incontestable evidence, there is not to be found even a single intimation which would lead us to believe that Wadi el-'Arish can be identified as " the river of Egypt ". Its course, indeed, is long, and as a wadi it is not matched by any other in the Sinai Peninsula, or even in Cisjordan; its sources are at the southern end of the Ujma plateau, close to Nakb Maraḥi, and after a course of about 200 km. it falls into the Mediterranean, near the El-'Arish hamlet; on its course it crosses the whole of the El-Tih desert, and its basin spreads westwards and eastwards across the whole region, reaching almost as far as Beersheba. All who follow its course will observe that all the wadis running through the southern half, the centre and the eastern part of the El-Tih desert—other than those running off Jebel Maghara and Jebel Yelek, which get lost in the sand dunes and do not reach the Wadi el-'Arish—are nothing but tributaries of this large wadi. Indeed, it would be more correct to name this desert the El-'Arish desert, rather than El-Tih, a wrong designation[2], which rests on the wrong premise that Mount Sinai was located in this Peninsula.

But this wadi, by its very nature, does not belong to Egypt, is not close to Egypt[3], is not a symbol of Egypt, and can by no means be regarded as the boundary of Egypt, for it embodies none of the features of a boundary.

The Wadi el-'Arish is nothing more than a dried-up wadi which has a little water only on rare occasions, after a heavy rainfall, and this for the briefest periods of an hour or two, or, at most, a day or two.

Moreover, it is shallow; for all the water-courses in the El-Tih desert, including the Wadi el-'Arish and its numerous tributaries, lose their shape immediately they leave the hilly country, and run their course through the plains having no banks and no depth. Cartographers have indeed experienced difficulty in tracing its precise course; for its bed is very expansive, while the banks are low and hardly recognizable; but for the bushes

[1] Cf. Jerome's Commentary on Ezek. xlvii, 1ff.

[2] According to Ishtori Haparḥi (14th cent.), the desert of El-Tih should be located in Transjordan (a day's journey to the east of Heshbon), likewise Jebel Hilal, then often called Jebel Beni Israil—a much more plausible location.

[3] There is a distance of 150 to 200 km. from this wadi to the Egyptian Delta.

occasionally marking its bed, it would have been impossible to trace even by the most keen-eyed explorer.

The landscape, too, on both sides of the wadi, as far as the eye could see is one of a bare and derelict plateau and plains densely sewn with pebbles and stones. Whether you turn your eye to the east or to the north, the west or the south, it is the same depressing sight of wasteland, with only an occasional interruption of a desert bush, or fluctuating sand dunes, or a chalk top whose whiteness disturbs the monotony of the desert. Could a wadi like this be seriously taken by the ancients as a boundary?

Of late many people had the opportunity to see that wadi with their own eyes, and not merely from observation on a map. All who did so could easily confirm that this wadi could never have been the " river of Egypt " of the Bible, and that this river of the Bible is no other than the Nile.

X. Biblical *Naḥal* Equivalent of Modern *Nahar*

It should not be surprising that Scripture designates as *naḥal* one of the off-shoots of the Nile, likewise a formidable river, even though by its etymology *naḥal* connotes simply a ditch, a trench, or a hollow in the ground, precisely what is today termed a wadi, that mostly carries no water.

Scripture was correct in designating the Shihor, or Pelusian stream, as the *naḥal Mizraim*, since an off-shoot of the principal river is also designated *naḥal*, as may be seen from the reference in Isaiah xi, 15, to the ingathering of the exiles from Assyria and Egypt:

> " And the Lord shall utterly destroy the tongue of the Egyptian sea; and with his mighty wind shall he shake his hand over the river, and shall smite it in the seven streams (*neḥalim*), and make men go over dryshod . . . "

Why " seven streams "? To compare it to the Nile, which shot off to seven off-shoots, or arms—Scripture was here alluding to the Second Redemption (from Assyria) which would be similar in its form and substance to the First Redemption (from Egypt).

It follows, that an off-shoot, or arm, of any river is a *naḥal*, and each of the seven off-shoots, or arms, of the Nile, is also a *naḥal*.

Moreover, the main designation of the Pelusian channel had to be *naḥal*, for what is at present termed *nahar* (" river ") was called in ancient times *naḥal*. For *nahar* is in essence a sea current, or flow of water, and is often used in Scripture as a synonym for " sea " (*yam*), while the ancient equivalent of the present-day *nahar* was in fact *naḥal*, regardless of its size and the volume of its water in different seasons of the year.

Indeed, when the Bible speaks (in Leviticus xi, 9–10) of " all that are in the waters," it designates all such currents as *neḥalim*:

> " These shall ye eat of all that are in the waters: whatsoever hath fins and scales in the waters, in the seas, and in the rivers (=*neḥalim*),

them shall ye eat. And all that have no fins and scales in the seas and in the rivers (*neḥalim*), of all that move in the waters, and of any living thing which is in the waters, they shall be an abomination unto you . . . "

The Rabbis (in *Sifra*, *Shemini*, 3) say plainly that *neḥalim* means *neharoth* (= rivers). Besides, in several Biblical references (especially Num. xxiv, 6; Job xx, 17; Isaiah lxvi, 12) the word *naḥal* is used as the immediate parallel (and, of course, synonym) of *nahar*.[1].

Occasionally, and by way of specific emphasis, in some Biblical references (e.g., Isaiah xxx, 28; Jeremiah xlvii, 2; II Chr. xxxii, 4), the qualifying adjective "flowing" or noun "water" (Deut. viii, 7; x, 7; Jer. xxxi, 8) would be added to the word *naḥal*, while a perennially dry *naḥal* is termed *naḥal eythan*, as an identifying designation (*Leshonenu*, 1931, pp. 213–216).

XI. Wadi El-'Arish could have no Possible Relation with River of Egypt

It must, then, be clear to all who study the Biblical texts without prejudice that the river of Egypt, the south-western boundary of the land of Israel, is the Nile; and whoever attempts, or presumes, to identify it with Wadi el-'Arish renders a disservice to the cause of biblical exegesis, and indeed misleads.

That some should nevertheless have held on to that amazingly wrong thesis is a deplorable phenomenon in Bible research that calls for the dispassionate examination of its sources.

So important is the truth on that particular and presumably restricted issue, that any light shed on it will also shed light on the origins of several other ill-founded theses in Biblical research.

Not the least amazing aspect of this theory is the fact that those who adhere to it actually base themselves on Isaiah's vision of redemption, that very vision which itself is the most convincing evidence of the truth that the river of Egypt is no other than the Nile. Strange to say, it is the very passage embodying that vision that was so distorted by certain students of the Bible as to lead them to change the river of Egypt for Wadi el-'Arish, a wadi so geographically removed from Egyptian territory proper.

Now, it is not the original Hebrew text which has led to the error and the distortion, but its Septuagint rendering. Only in Isaiah xxvii, 12, do we find the river rendered as *Rhinocorura*, but in all other passages the rendering is χειμάρρος (three times), or φάραγξ (twice), and once even plain ποταμός, all of them meaning real streams.

[1] It will be quite in place here to note that it has already even been suggested, that the Greek appellation Νείλος, given to the famous river of Egypt, is nothing but a mere dialectical variation of the Hebrew *naḥal* (H. Brugsch-Bey, *Geschichte Aegyptens unt. d. Pharaonen*, Leipzig, 1877, p. 18).

Again, it is conceivable that even here the Septuagint, having failed to specify more closely the location of the *Rhinocorura*, might well have meant some location on, or close to, the shore of the Nile.

But, it would appear from Strabo's account[1], which records *Rhinocorura* immediately after Gaza and Rafiah—assuming that these are the present places called by these names—that *Rhinocorura* is the present El-'Arish. This follows also from the list of places crossed by Titus on his way to Jerusalem, as quoted by Josephus[2], and from *Itin. Anton.* [3].

It follows, but it is not necessarily the absolute truth, for *Rhinocorura* of the Septuagint might have been somewhere else and in fact Alt (in *Palästina-Jahrbuch*, 1914, p. 61, note 4) has located a *Rhinocorura* near the present Kantara, i.e., near the course believed to be the Pelusian water course.

Again, this *Rhinocorura* may not be the translation, or the equivalent, of the " river of Egypt ", but an altogether new place-name, and the Septuagint connoted thereby that (in their time) not the " river of Egypt," but the city of *Rhinocorura*, was the border between the land of Israel and Egypt, for the Septuagint translation of Isaiah is unique and of a late date, and cannot therefore count much.

Be this as it may, this isolated and mute translation, *Rhinocorura*, cannot possibly repudiate the six other translations, which seemingly contradict it definitely, and it certainly cannot hold ground against the correct and legitimate Hebrew sources.

Nevertheless several scholars have based themselves on this extraordinary and unique translation of *Isaiah* xxvii, 12, and made haste to locate the " river of Egypt " in a dried-up wadi that does not run through Egyptian territory, does not constitute a boundary of the land of Egypt, and certainly cannot be assumed to have been a symbol of Egypt. They have taken this course in complete disregard of the evidence in the sources, and of the findings of objective research.

Such a course can at least be understood—though not forgiven—if followed by non-Jewish scholars to whom the original sources are not always gospel truth. But, one's surprise is all the greater when so eminent a Jewish authority as Sa'adiah Gaon, ignores both explicit texts and the accepted tradition, which was confirmed by our own Aramaic translations of the Bible, and so diverting from this fully dependable course, translates " the river of Egypt," both in Isaiah xxvii and in Numbers as " Wadi el-'Arish ".

Ibn Ezra, too, appeared to emulate that example of Sa'adiah's when he saw fit to point out in his commentary on Numbers xxxiv, 5 that " the river of Egypt was not the *ye'or* ", after having said in his commentary on Genesis xv, 18, " From the river of Egypt—this is Shihor, but not the *ye'or* ".

Nevertheless one notes with interest that he does not specifically mention

[1] Strabo, xvi, 2. 31; 2. 28.

[2] *Wars* iv, 11. 5.

[3] Quoted by Ritter, vol. 14, p. 138.

Wadi el-'Arish, for he does not appear to have accepted the whole of Sa'adiah's thesis, and while he found it difficult to identify the "river of Egypt" and the Shihor as the Nile, he nevertheless refrained from identifying it as the above wadi. Had he held a different belief, he might not have stopped at the mere negation, and might well have made a more specific identification.

The author of *Kaphtor Wapherah* (Lunz ed., pp. 248 f.) combined Rashi, Sa'adiah and Ibn Ezra, without noticing that the three are by no means unanimous, and their views were mutually contradictory.

Abravanel, too, in his commentary on the Pentateuch, was influenced by Sa'adiah and so the Ridbaz (= Rabbi David ben Zimra) in his *Responsa*.

It would be interesting to examine the sources from which Sa'adiah derived his geographical information, and see upon what authorities he based himself. Such an examination becomes all the more essential because his views have guided and influenced a number of subsequent authorities, Jewish, as well as non-Jewish. Did he follow the far from precise Arab geographers? Or was he, perhaps, influenced by the Septuagint and Christian commentators? *Or was it—and this appears to be the most plausible explanation—that Sa'adiah's Wadi el-'Arish was not at all the same Wadi el-'Arish of contemporary usage?* We must not forget that the mediaeval nomenclature of place names in this desert has been thoroughly reversed, as stated above (p. 17, n. 14), and can by no means be deemed in any way reliable.

In conclusion I may be permitted to reproduce here an extract from one of the scrolls recently published by Naḥman Avigad and Yigael Yadin, the Genesis Apocryphal Scroll, column 19, lines 10–13, which reads, in English translation, as follows:[1]

10 "... There was famine in the whole of this country, and I heard that there was corn ... in Egypt, and proceeded.

11 "... to the land of Egypt ... (arrived) at Karmon river, one of

12 "... the fountainheads of the river ... and now we ... our country and I crossed the *seven* fountainheads of the river which

13 "... now we crossed our country and entered the land of the sons of Ham into the land of Egypt."

[1] The original Aramaic text of the passage is as follows:

10 — ... והוא כפנא בארעא דא כולא
ושמעת די סנבו[תא] במצרין ונגרת
11 — ל[ ] לארע· מצרין [ ]א
די· ל[ ] והוא [דבקת לכרמונא
נהרא חד מן

12 — ראשי נהרא אמ[ ] עלא[ ]
ל[ ] בען אנחנא [ ] ארענא [וח]לפת
שבעת ראשי נהרא דן די
13 — [ ] לל[ ] מ[ ] מל[ ]
א[ ] א בען חלפנא ארענא ועלנא
בני חם לארע מצרין

It is clear that this scroll, too, regards the Nile as the southern boundary of the Land of Israel. See also col. 21, lines 11–12; 15–18, here the scroll renders the Gihon (i.e., the River of Egypt, the Nile) as the southern boundary, and makes the Taurus and the Euphrates the northern boundary, precisely as in our Aramaic translations. Kadesh is located in the East, on the border of the Arabian desert, just has I have established in my own researches on a renewed examination of the sources.[1]

[1] *Wezeh Gevul Ha'areṣ*, pp. 140–169, 583–607.

A ROW OF CEDAR BEAMS[1]

By H. C. Thomson

"Three rows of hewn stone, and a row of cedar beams"; this cryptic statement occurs in the description of Solomon's Temple in 1 Kings vi, 36, referring to the inner court, and also in vii, 12, referring to the great court of the Forest of Lebanon House, "and the porch of the house". The phrase is found again in Ezra vi, 4, in Cyrus' edict regarding the rebuilding of the Temple; in this context it is not specified whether this refers to a part of the work or the whole of it (*cf.* Ezra v, 8).

The phrase has always been puzzling to commentators;[2] whether it is taken as meaning a wall consisting of three courses of stone topped with a kind of coping of cedar, whose purpose is hard to see; or as meaning three courses horizontally with an inner lining of cedar,[3] which is linguistically possible but has no structural sense. I should like to support the suggestion that the reference is to a form of building technique which is fairly well attested in the Ancient Near East, in which timber is actually built into the structure of the wall itself.

The use of timber as a building material is well known and needs no explanation here. Roofs, columns, doors and frames, perhaps window-frames and staircases, and decorative work such as panelling, are uses of timber which are known. The use of timber set in the actual structure, which is our concern, can be demonstrated by a mass of evidence which it would take too long to detail here. However, a summary of the more striking examples can be given.

It must be borne in mind that as wood itself is much more perishable than stone, direct evidence is not easy to get. Timbers were probably taken away when a building fell into disuse, and reused; damp in the course of time rots the substance away; ants and other creatures may eat it, and fire in many cases is the cause of its destruction. But even so, traces are sometimes left; holes appear in masonry which are too regular for chance, charcoal may testify to the fact of wood having been used, and occasionally by good fortune pieces of the actual wood itself may remain. With this in mind we turn to the evidence.

In the reports of excavation in the various fields, examples are found of wooden beams evidently laid *horizontally* on top of a stone foundation. Their

[1] A paper read to the Society for Old Testament Study in January, 1959.

[2] Batten (I.C.C., *Ezra*, p. 142) called it "an unintelligible method of building."

[3] So Rudolph, van Gelderen; others take it as "panelling" (Joüon, Siegfried).

dimensions are difficult to determine when the wood has perished or is carbonized; they vary from quite narrow poles to substantial timbers (40 cm. in Knossos for instance). At Alishar Hüyük von der Osten records " wooden beams let in horizontally along both the outer and inner faces of the wall " (0·25–0·30 m. thick).[1] At Troy in the Middle Bronze Age (VI f) " there is a slot for a wooden beam about 0·12 m. high in the inner face of the wall some 0·80 m. above the floor. This probably ran the full width of the room."[2] Sometimes these are associated with orthostats, as at Tell Halaf[3] and Carchemish.[4] " The lowest course of bricks is set back behind the rest, backing a beam which lay along the top of the orthostats . . .when found, the ashes of the lowest beam . . .lay undisturbed upon the stone-work, a solid mass of charcoal still preserving the form of the old wood."[5]

More common is the use of horizontal beams along with shorter *crosspieces* or transverse battens let into the thickness of the wall. This is found in the main wall of Early Bronze Jericho. " At intervals in the mud-bricks are transverse and longitudinal timbers, presumably intended to bind the wall together and prevent the collapse of the face which we have found to have occurred so often. But with the great heat of the blazing brushwood against the face of the wall, the timbers caught fire, for they can be traced as lines of charcoal, and they would have helped the fire to penetrate right into the core of the wall."[6] In Troy again (House VI f.) " At several places in the rugged stone masonry of this building, as in others, we found horizontal slots which presumably once held wooden beams. One opening of this kind . . . is 0·13 m. high, and where we could measure it by inserting a meter stick, about 0·80 m. deep."[7] In Alalakh (Room 21) " on the stone foundations a longitudinal beam, on this two courses of mudbrick interrupted by transverse beams at 1·0 m. intervals, then a second longitudinal beam and the two brick-courses as before; this is the extreme of half-timber work."[8] And in Room 32: " The walls . . . gave the best illustration of half-timber construction. A longitudinal beam rested on the stone foundations; on that was built brickwork alternating with transverse beams, the holes left by which are 0·30 m. high and 0·18 m. wide and run back into the wall for about 0·60 m. Immediately above there came the second longitudinal beam, the impression of the rounded back of which can be clearly seen in the mud-mortar behind it; then more transverse beams directly above those in the lower course, another longitudinal beam 0·30 m. wide, and a third row of

[1] *O.I.P.*, **29** (1937), p. 292.

[2] *Troy*, vol. III (1953), p. 288.

[3] M. von. Oppenheim, *Tell Halaf* (Eng. translation), p. 275.

[4] Woolley, *Carchemish II*, p. 148.

[5] See also Yadin, *Israel Exploration Journal* **8** (1958), pp. 12, 14, on Hazor.

[6] K. Kenyon, *Digging up Jericho* (1957), p. 177.

[7] *Op. cit.*, p. 287.

[8] Woolley, *Alalakh* (1955), p. 123.

transverse beams; the description holds good of all the walls except the north wall which had no timbering."[1]

A further elaboration is found in cases where *vertical* timbers are also employed, often as door-jambs, the result being a framework of timbers, horizontal, transverse and vertical, which is filled with walling of mud-brick (a curious anticipation of 20th century A.D. building techniques where structural steel replaces the timber). An outstanding example is at Beyce-sultan in Anatolia, about 15th century B.C. in which the timber is half-way up the stone substructure of the wall. " The substructure of stone ' rubble ' usually stood to a height of about one metre and was itself reinforced at about half its height with a framework of longitudinal wooden beams and cross-ties. Above this the unbaked brickwork was divided into panels about 70 cms. wide by groups of vertical posts, further multiplied at the intersection of the walls."[2] In Knossos " in the covered part of the Hall the practice, already known in Early Minoan times, of dividing the stonework of the interior walls into sections by the interposition of upright posts tied together by horizontal and transverse beams emerges once more into prominence."[3]

At Vasiliki in Crete (Early Minoan II) Seager reported: " The houses were rectangular, possibly two or three stories high. Above a stone base the walls were constructed of sundried bricks tied together vertically and horizontally with wooden beams."[4] This is characteristic of the Helladic civilisation. In Mycenæ " all the houses illustrate the structural system of the Mycenæans: a wall construction of rubble masonry and wooden framework; timbers set horizontally and vertically so as to form quadrangular panels, by means of which a superstructure of mud-brick was supported and tied to the rubble part of the wall. This system of timber-framing was used even in the construction of the palaces and in parts where ashlar masonry was employed."[5]

It is noteworthy that this technique is characteristic of both Helladic and Hittite cultures. Conteneau says of Zendjirli, " on remarque, dans la construction, une particularité qui consiste à placer sur les fondations de pierre et dans le mur de briques crues une armature de bois adjourd'hui brulée . . . "[6] while Wace sums up with reference to Mycenae: " The usual method of building was of crude brick on a stone foundation set with clay . . . and in their upper part was anchored a wooden framework which, projecting above the stonework, ran right up through the crude brick superstructure and held it together."[7] It seems likely that this is not merely coincidence. Lloyd and Mellaart thus compare the areas: " The general practice of

[1] *Ibid.*, p. 126.

[2] Lloyd and Mellaart, *Anatolian Studies*, 5 (1955), p. 50.

[3] Evans, *The Palace of Minos*, vol. I, p. 347.

[4] Quoted in J. Pendlebury, *Handbook*, p. 27.

[5] G. Mylonas, *Ancient Mycenæ* (1957), pp. 68–9.

[6] *La civilisation des Hittites* (1948), p. 172.

[7] *Mycenæ*, p. 105.

building mud-brick walls on stone foundations and reinforcing both with timber is so widespread in Syria and the Ægean as well as in all parts of Anatolia that it can hardly be used as a criterion of particular comparison. But some details of such a construction as used at Beycesultan are so exactly reflected at Mallia that the possibility of coincidence is almost excluded."[1]

Examples of the technique, however, are found in other civilisations also, for instance at Ur,[2] Babylon,[3] and El-Amarna,[4] while to bring the matter nearer to the area with which we are chiefly concerned, there is an example from Megiddo so clear that the excavators compare it with the verse in 1 Kings vi, 36. It comes from Stratum IV (Early Iron): " The superstructure of building 338, apparently composed of mud brick and timber, was erected on a raised platform or, to use the term loosely, a podium composed of stone walls with earth filling. None of the superstructure remains, but wherever the flat top of the stone walls of the podium was preserved it was strewn with fragments of burnt mud brick. A quantity of wood charcoal was found on the pavement of the courtyard along the west wall of the podium." Also " on the floor of courtyard 313 . . . there was found a large piece of wood charcoal . . . which, when analysed, proved to be that of cedar."[5]

These examples from the detailed reports of individual excavations have shown that there is fairly clear evidence of this structural use of timber in the ancient Near East from Neolithic times (Jericho) down to the Iron Age, and that it is found all round the Fertile Crescent. This general position is accepted in several of the books dealing with the subject of Biblical and Near Eastern archaeology as a whole. Barrois for instance writes in his *Manuel d'archéologie biblique:* " Les architectes ont fréquemment consolidé les murs de briques en employant des chaînages de bois: des poutres ou des madriers horizontaux étaient noyés dans la maçonnerie."[6] Frankfort in discussing the Hittite Empire wrote: " The upper portions of the walls were built of sun-dried bricks strengthened with wooden beams." And referring to Syria in the second millennium B.C.: " Wood was extensively employed to strengthen the mud-brick upper portions of the walls."[7]

The existence of this peculiar building technique having thus been demonstrated, the question then arises: What was its purpose? Several possible explanations come to mind, which we may consider briefly.

(1) *Economy* could be one answer. In well-wooded lands timber is readily available, and might be used to supplement other materials such as

[1] *Anatolian Studies*, **6** (1956), p. 122.

[2] Woolley, *Excavations at Ur* (1954), pp. 76, 155.

[3] Koldewey, *Das wiedererstehende Babylon* (1913), pp. 57, 62, etc.

[4] Pendlebury, *Tell el Amarna* (1935), p. 88.

[5] Lamon & Shipton, *O.I.P.*, **42** (1939), p. 59.

[6] Vol. I, pp. 103–4.

[7] *Art and Architecture of the Ancient Orient* (1954), pp. 139, 145.

stone. This may possibly be the answer in some instances, but it does not cover all. This technique is found not only in countries such as Anatolia, but appears also in sites such as Babylon in the Mesopotamian plain, where timber of this sort is not found and would have to be transported considerable distances.

(2) *Aesthetic* considerations may have played a part. We know that in several cases kings have left on record that they brought cedar particularly for the decoration of their palaces and important buildings; and indeed most of our evidence comes from such buildings, although there are also instances of the use of timber in houses. The fact, however, that in a number of cases the timber was actually set into the walling and sometimes plastered over, suggests that its use cannot have been always decorative, or it would hardly be hidden from sight.

(3) We must always bear in mind that *ritual* considerations might have entered into the matter. But here again this explanation does not carry us all the way. The use of horizontal timbers, particularly when carrying some of the weight of the structure, seems to point in a different direction. At the same time, it is possible that a practice which originally leaned heavily on ritual may have been continued long after the ideas behind it had fallen into disuse, or other reasons had become important as well.

(4) While it is possible that one or more of these considerations may have played their part, it seems most probable that *structural* reasons lie at the root of this practice. It occurs so widely, and retains its essential similarity in different times and places; and the significant fact that the wood is sometimes plastered over, suggests that this technique was designed to lend structural strength to buildings of different kinds. What sort of strength would it offer? A solid wall of stone seems at first sight a much stronger structure, especially in case of fire.

The most probable explanation is that protection against shock, and particularly earthquake shock, lies at the heart of this problem. Earthquakes are quite common in this part of the Near East, and a number of famous ones have been recorded. (We should perhaps bear in mind that the cause of these was not known in those days, and so places which to us are out of the seismic zone might well seem to their ancient inhabitants as liable to this strange visitation as any other.) In such a disturbance, stone or brick walls are apt to give way, where a long timber will cushion the shock to some extent and hold the bonding together; and transverse timbers, though shorter, will tend to prevent a wall from falling outward or inward. Pendlebury writing of El Amarna in 1935, said: " Now there is one danger with mud brick, and that is its habit of drying unevenly, shrinking, and so causing the wall to warp . . . In the case of pylon towers or very big walls, therefore, balks of timber were substituted which not only served to tie the bricks but also had a certain amount of elasticity which minimized the

dangers of warping. A similar practice, though for a different reason, is found in Minoan Crete, where a noticeable feature of the buildings is the amount of timbering. Here the reason was the desire to minimize the effects of the earthquakes to which Crete is particularly liable."[1] This point (which so far as I know Pendlebury was the first to make) is taken up by Lloyd and Mellaart in their 1955 report on Beycesultan: " In fact, the system is dictated by climatic conditions and the character of available building materials. When the three primary elements, stone, clay, and timber are easily obtainable and long experience of earthquakes has shown that some structural elasticity is desirable, experiments in widely separated localities arrive independently at the same results. Stone recommends itself for the foundations, crude brick for the upper structure and the walls are reinforced internally with a framework of timber beams, which also assure the stability of the roof."[2]

If this practice were adopted in regions liable to earthquakes, it would not be surprising if it spread to other places where it was less necessary, and became an accepted architectural feature. Established as it certainly was in the Helladic and Hittite areas, and through them into north Syria, its influence was to be found in the region from which David and Solomon imported builders,[3] who would probably be familiar with this technique which had been in use for a long time. Does this mean that they deliberately employed it as a protection against earthquake shock when the Temple and the Palace were built? Not necessarily; more probably they simply used the accepted methods of their day in which they had been trained, following the fashion which prevailed in such large and grandiose buildings.

If this is so, what exactly was the method of construction used? There seem to be two main possibilities.

(1) They may have laid a stone foundation of three courses and then added one course of cedar wood (with or without short transverse beams), and then repeated the process up the wall. This would be an unusual method, to judge from the archaeological evidence, but it would provide a possible explanation of the various hints in the text. The side-chambers were each five cubits high, and they increased one cubit in width from the lowest to the highest, and they rested on the wall of the building with beams of cedar, so as to avoid being bonded into the actual structure.[4] If the main wall were built of three courses of large stones with a beam above, this would approximately equal the five cubits, and the beam would then provide a ledge on which the side-chambers could rest; and if the wall were then set back a cubit and continued in the same way, this would account at one and the same time for the unequal width of the siderooms, for the

[1] *Op cit.*, pp. 67, 68.

[2] *Anatolian Studies*, **5** (1955), p. 43.

[3] 2 Sam. v. 11; 1 Kings v, *passim.*

[4] 1 Kings vi, 5-10.

מגרעות and for the row of timber (which might of course serve other purposes as well).

(2) The other explanation keeps closer to the text of Kings, and is more in accord with the archaeological evidence. They may have laid a foundation of three courses of stone, interposed a bedding of cedar (with or without transverse pieces) and continued the wall in brick. Three points might be cited in support of this. Mud brick was used in pretentious structures as at Babylon,[1] Khorsabad,[2] and Medinet Habu[3] where it is noteworthy that while the sacred parts of the complex were of stone, the more secular parts were of brick; and in the text of Kings it suggests that this technique was used for courts and porch. Secondly, this method of building usually in other places supports a heavy wall of mud brick; and thirdly, the Hebrew text of 1 Kings, v. 32, emphasizes that stones were cut and prepared "to make the foundation ליסד" which is odd if it means that all the building was of stone. (It is not impossible that ashlar masonry was used for the founds, and rubble for the rest; but this would be a highly unusual method, as far as the archaeological evidence goes.)

The possibility of mud brick having been used for parts at least of the Temple complex seems worth further investigation. It is again not inconceivable that both the above explanations might be true, applying to different parts of the building. I do not claim to have provided finally conclusive answers to these difficult problems; merely to have opened up some questions in this particular field of Old Testament study which seem to call for fresh examination in the light of the evidence provided by archaeology; and to have put forward some suggestions which may lead towards a solution.

[1] Koldewey, *op cit.*

[2] Loud., *O.I.P.*, **38** (1936).

[3] *Cf.* Hölscher, *O.I.P.*, **41** (1939), p. 75; *O.I.P.*, **21** (1934), foreword.

A SYRIAN KRATER FROM BAMBOULA AT KOURION

By J. L. Benson

An unusual pot from the excavations of the late J. F. Daniel at Kourion has long intrigued me and seems of sufficient interest and importance to merit special attention in advance of the final site publication. A photograph which does not reveal clearly the details of the decoration has already been published, at which time Daniel wrote, " It belongs to a rare class of pottery chiefly known from our excavations."[1] I believe that it is now possible to shed some light on this class of pottery although it cannot be claimed that the mystery has been entirely resolved.

The krater in question, B 1003, is perhaps somewhat more than half preserved, sufficient to allow a trustworthy restoration of its shape, as shown in Figs. 1–2. It stands on a fairly wide, profiled base above which rises a sturdy, very slightly concave hollow stem. The shape of the body is roughly biconical with the upper cone somewhat truncated. The mouth is wide and has a squared, slightly undercut rim. There is a (lifted) horizontal roll handle attached to opposite sides at the widest part of the body. The clay is pinkish buff, rather hard and coarse in texture with some fine dark sand and larger light grits as temper. The paint varies from washy matt brown to dark grey-brown or black. It cannot be denied that the clay and paint as such resemble to some extent the fabric of Late Cypriote III Decorated ware of the coarser sort; however, a close consideration of the clay and paint of typical Syro-Palestinian pots in Near Eastern museums convinced me that equally good, perhaps better, parallels on this score exist there.[2]

The rim of B 1003 is painted solidly. The main decoration consists of rectangular panels, separated by " dead " spaces, on the shoulder of the pot. Underlining this are three bands (just below the handle), repeated about halfway down the belly and again on the stem. The edge of the base also had paint.

[1] *Bulletin University Museum* VII (1939) 18 and Pl. X, right. Height: 31·5 cm. Diameter: 33·1 cm.

[2] The closest parallel I noted was the incense burner published in G. Loud, *Megiddo* II (Chicago, 1948), Pl. 145:15, which is described as buff with red paint in the publication (also illustrated in *Antiquity and Survival II*, 1957, 197, Fig. 33). From Syria proper a small globular jug from Niveau 9 of the Swedish excavations at Tell es-Saliheh might be cited for similar clay and paint. Unfortunately no actual confrontation of the objects involved was or is possible so that the question of technical similarities must remain undecided. B 1003 has been assigned to, and is in, the Cyprus Museum, Nicosia.

The decoration of one side has fortunately been preserved in its entirety (Figs. 5–8). It consists of four tall panels outlined by several vertical bars. The panel at the left (Fig. 5) has outlined dots framed by pendant lozenges. The interstices are filled with smaller triangles (of which three are bisected, two are plain and one is repeated in smaller format). The second panel (Fig. 6) is latticed and some of the resulting lozenges have been filled in—more or less at random as it seems. The third and fourth panels (Fig. 7) are contiguous. In the third, a row of vertical bars is over an interlocking triangle design; below these are three rather crudely painted barred fish, one over the other. The final panel consists of chevrons flanked by opposing half-circles drawn so carelessly that they resemble a vertical wavy line; to the right of this is a double barred zone. The only part remaining from the decoration on the other shoulder of the pot is a panel with a kind of tree design flanked by opposing half-circles each containing a dot (Fig. 8).

B 1003 was found in Area D, level B : 2a, of the Bamboula settlement, which can be dated with reasonable assurance to the Late Cypriote IIIA period[1] or, in very general terms, the twelfth century B.C., according to the chronology evolved for the site. The pot may well have originated—indeed is likely to have originated—early rather than late in this century, if not actually in the thirteenth century. The reason for this is the greater likelihood of foreign contacts in the earlier period. With this much information given, we may attempt to find a provenance for it.

As Daniel implied, B 1003 was a rare find in Cyprus—in fact, unique, to the best of my knowledge; and if one looks elsewhere for parallels the situation seems to be much the same. Nevertheless, it has certain features both in shape and decoration which incorporate tendencies flourishing on the Syro-Palestinian littoral, and that is the region to which we must turn our attention. To deal with the matter of shape first, the most striking feature is the tall foot. One is immediately reminded of the so-called trumpet pots found particularly in Palestine. Although B 1003 is not really a trumpet pot, its tall foot, taken in conjunction with its angular shape and the placement of its handles at the widest part, relates it more closely to this class of pots than any other. For purposes of comparison I reproduce in Figs. 3–4[2], two new views of a krater from Beth-shan (found in the temple of Amenophis III and thus in a context of the early part of the fourteenth century B.C.). Not only the shape but the decorative plan of this pot is similar to B 1003, viz., tall rectangular panels (all contiguous, as are the third and fourth panels of our

[1] Daniel entertained the possibility that the entire B stratum might have belonged to the LC IIC period, but final analysis of the material did not seem to bear this out.

[2] Palestine Archaeological Museum I. 3825 (Neg. 47.910/11), also illustrated by A. Rowe, *Beth-shan* Vol. II. Pt. 1 (Philadelphia, 1940) Pl. XLIXA:4, whence C. Watzinger, *Denkmäler Palästinas* I (Leipzig 1933) Pl. 30 : 67. Grateful acknowledgment is made here to the Palestine Archaeological Museum authorities for permission to publish Figs. 3–4.

krater) separated by triple bars. One might also take into consideration a trumpet pot from Megiddo[1] (Stratum VII: 1350–1150 B.C.), the rim of which offers a somewhat closer parallel to ours than does the Beth-shan pot. The so-called pedestal foot, as such, is a phenomenon of Levantine pottery, and examples—none exactly similar to B 1003—can be cited from both Cyprus and the neighbouring littoral.[2] I must emphasize again that it is the total impression of the shape and the interrelation of the parts which brings our pot resolutely away from Cyprus and towards the Levantine mainland.

The only fabric to which B 1003 could belong, were it of Cypriote provenance—which I regard as virtually impossible—is Late Cypriote III Decorated ware. The shape has hitherto been unparalleled in that fabric[3] and there is no specific Cypriote feature to point in that direction. It is true that fragments of several kraters, the total shape of which cannot be reconstructed (B 569–572), were found at Bamboula. On the basis of clay and paint these seem to fit into the fabric in question more closely and have been thus classified. However, I cannot logically exclude absolutely the possibility that even some or all of these could be imports. In any case, the norm of kraters native to Cyprus at this period is represented by those of the so-called Rude Style which invariably have features recognizably Mycenæan, such as the characteristic foot and the high placement of the handles.[4] In view of the presence of eastern imports such as B 1003, nevertheless, one must reckon with the possibility of some imitation of Syro-Palestinian features in native Cypriote kraters.

It is not only the total impression of the shape but the motifs and arrangement of the decoration of B 1003 which lead me to postulate a Syrian provenance.

An amphora from Hama (Niveau F, which the excavator equated roughly with the Sub-Mycenæan epoch, *i.e.*, *ca.* 1200–950 B.C.) has a shoulder design of four fish placed one over the other.[5] Instead of simply barring the fish, the artist in this case has cross-barred them, that is, made them correspond to the latticework of the adjoining panel.[6] Otherwise they are very similar in type to the fish of B 1003. The motif of stacked fish is thus seen to be current in Syria. In Palestine as well it is found on a cylinder seal (from the

[1] *Megiddo* II, Pl. 72 : 3.

[2] For a recent compilation of references, see H. Catling in *Myrtou-Pigadhes* (Oxford 1957), 55, Forms 324–325.

[3] *Cf. Opuscula Archæologica* III (1944), 233 ff. A few local imitations of Syro-Palestinian kraters in this ware have been found at Bamboula (B 573–575).

[4] *Cf. e.g.*, F. Stubbings, *Mycenæan Pottery from the Levant* (Cambridge, 1951), Pl. IX: 4, 6; Pl. XVII : 1.

[5] H. Ingholt, *Sept Campagnes de Fouilles à Hama en Syrie* (Copenhagen, 1940), Pl. XXI : 1.

[6] Fish representations are virtually unknown in this period on native Cypriote pottery, although the motif on pottery of Ægean inspiration (e.g., British Museum C 671, C 676 and Stubbings, *op. cit.* Pl. X : 2) is not rare.

Fig. 1

Krater B 1003 reconstructed
(photograph)

Fig 2

Krater B 1003 reconstructed
(diagram)

Fig. 1

Fig. 2

Krater from Beth-shan

Fig. 5
Panel with outlined dots framed by pendant lozenges on Krater B 1003

Fig. 6
Latticed panel on Krater B 1003

Fig 7
Fish and chevron panels on Krater B 1003

Fig. 8
Tree or Leaf Decoration on Krater B 1003

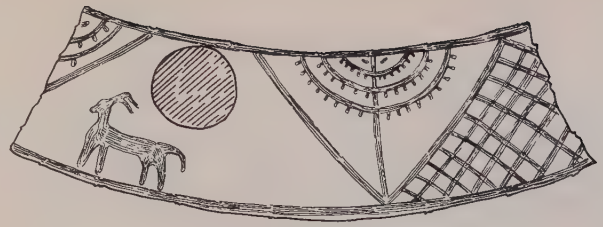

Fig. 9a

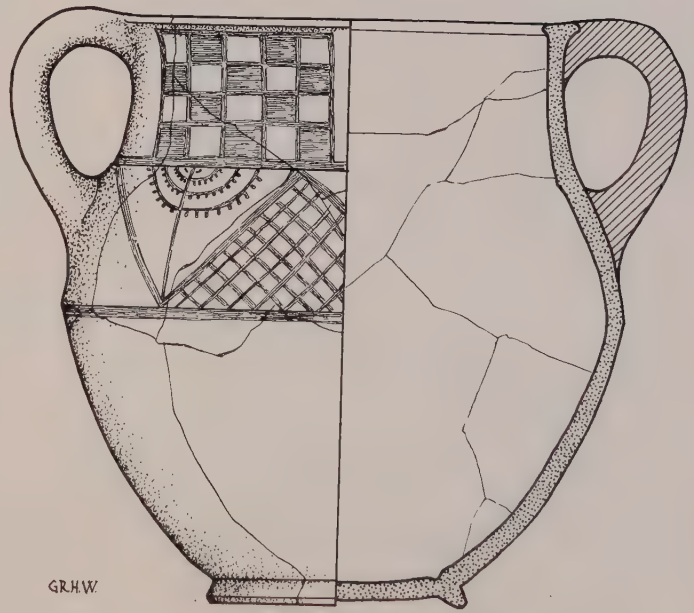

Fig. 9b
Krater-amphora B 1004

same level as the trumpet pot cited above) in conjunction with a tree or leaf design (*cf.* the panel on the less well preserved side of B 1003, Fig. 8).[1] The fish panel of the Hama pot is separated by bars from another of lattice-work. Lattice-work panels are ubiquitous on Syro-Palestinian ceramic decoration in the Late Bronze Age (both isolated or contiguous with other panels) as well as earlier.[2] It is true that the motif also occurs in Cypriote White Painted pottery of the Middle Bronze Age[3] but it is not really in evidence after that on the island until the advent of Iron Age White Painted pottery, and then not ubiquitously. A remarkably close parallel to both syntax and synthesis of the fourth panel of B 1003 occurs on a cylindrical jar found at Ras Shamra.[4] Although the manufacture of this jar may have taken place several centuries before that of our krater, the designs on both are so much in the same spirit that one must reckon seriously with a continuing ceramic tradition in that area. If the wavy lines which flank the chevron design of B 1003 are opposing semi-circles (as I assumed in the description above) which have degenerated into mere wavy lines, this would be a natural tendency. However, even though both varieties exist on the respective sides of B 1003, it is not possible to be very certain that such an evolution is really illustrated here. Wavy vertical lines are common on Syro-Palestinian pottery and the artist may have intended them here. It seems that semi-circles with dots (as on the reverse side of B 1003) are rare anywhere in the Ægean or the Levant although the idea is a simple one. The only examples I can definitely cite aside from B 1003 and B 569 (one of the krater fragments mentioned above, which I am taking to be an LC III Decorated imitation of Syrian ware) are from the so-called Philistine ware.[5] I will attempt no explanation for this phenomenon, especially since it is dangerous to argue *ex silentio* and I may well be overlooking something. At the very least, the two Bamboula examples provide an interesting antecedent to (or concomitant with) the Philistine practice.

The design of the left panel (Fig. 5) is again rather unusual and on first

[1] *Beth-shan* II, Pt. 1, Pl. XXXVIII : 16.

[2] *Cf. e.g.*, C. Schaeffer, *Ugaritica* II (Paris 1949), Fig. 50 : 15, 25; *Megiddo* II, Pl. 63 : 3, Pl. 66 : 2, 4, etc. A krater from Tell-ta'annek illustrated in *Zeitschrift des deutschen Palästinavereins* **61** (1938) Pl. 15 : 2, where it is assigned to the end of the Middle or beginning of the Late Bronze Age, provides a parallel to the irregular blacking-in of lozenges of the lattice work. But this feature may still be considered an idiosyncrasy of the painter of B 1003.

[3] *Cf.* E. Gjerstad, *Swedish Cyprus Expedition* I (Stockholm, 1934), Pl. CV ff.

[4] *Ugaritica* II, Fig. 106 : 15. Range of date: 1900–1600 B.C.

[5] R. Macalister, *The Excavation of Gezer III* (London, 1912), Pl. CLIX : 10; Pl. CLXIII: 1, 7; Pl. CLXV: 4, etc. A fragment of an LH IIIB bowl from Mycenæ (*BSA* **49**, 1954, Pl. 41 : b, lower right) has a motif which is very similar though perhaps not quite the same thing: virtual circles, each with a dot in the centre, attached in the manner of scallops to vertical bars. Dr. V. Karageorghis kindly informs me that the motif in question occurs on an unpublished LH IIIB fragment.

sight reminds one of designs on Syrian Bichrome ware. In effect, one does find something roughly like it at Ras Shamra[1] in that fabric, but the quite original flare given to the scheme by our painter once again puts his product in a somewhat special class. The " tree " design, perhaps better described as a leaf design (Fig. 8), has parallels in both slightly earlier and contemporary levels at Megiddo.[2] Although a similar design exists in the Mycenæan and Cypriote repertory for plastic decoration,[3] it was not to my knowledge employed in pot decoration; certainly the way in which the leaf design emerges on B 1003 has a peculiarly Near Eastern look.

A not entirely usual feature of B 1003—in combination with its essentially Syro-Palestianian shape and decoration—is the scheme of bands around the lower belly and stem (Fig. 2). It is rather reminiscent, and is perhaps an adaptation, of Mycenæan bowl articulation. The numerous examples of Mycenæan ware found in Syria and Palestine prevent there being any problem in assuming such a prototype; in fact, quite close parallels for the employment of bands, singly and in groups, on the belly and stem of similar pots of Syro-Palestinian fabric can be cited from Beth-shan.[4]

This investigation has provided such numerous parallels in every respect from Palestine and Syria, particularly the latter, for B 1003 that the assumption of a Syrian provenance seems logical and necessary. The fact that no specific place or class of pottery (with exactly the synthesis of elements exhibited by B 1003) in that region can be cited for our krater may be owing to the vagaries of excavators' luck. Moreover, the close ties between Cyprus and the Syro-Palestinian littoral during the Late Bronze Age are axiomatic. Much Red Lustrous ware, " White Lustrous " ware and Syrian Bichrome ware (B 980—B 1002) were found at Kourion itself, to say nothing of other Cypriote sites. In addition, a krater-amphora, B 1004 (Figs. 9a–b), which is certainly of Syrian provenance, was found in the Bamboula settlement.[5] Both shape[6] and decoration[7] have close parallels in that region, and

[1] *Ugaritica* II, Fig. 50 : 23.

[2] *Megiddo* II, Pl. 58 : 1; Pl. 64 : 5.

[3] *Cf.* B 1432, discussed in *The Aegean and the Near East* (Locust Valley, 1956) 70 ff.

[4] *Beth-shan* II, Pt. 2, Pl. XLII : 19 and 21; Pl. XLIV : 20. *Cf.* also *Megiddo* II, Pl. 72 : 14.

[5] Published by Daniel in *AJA* **42** (1938), 271, Fig. 11a-b, as possibly " foreign ". Furumark, *op. cit.*, 234 : K lists it among LC III Decorated pots.

[6] *Cf. Hama*, Pl. XXI : 5.

[7] Quadruped: *ibid.*, Pl. XXI : 2; O. Tufnell, C. Inge, L. Harding, *Lachish II* (Oxford 1940) Pl. LIX : 2; *Ugaritica* II Fig. 50 : 10; E. Grant, *'Ain Shems Excavations* (Haverford, 1932), Pt. II, Pl. XLVI : 12; *Megiddo* II, Pl. 58 : 1, etc. Latticed triangles: common in Syrian Bichrome; later Bronze Age triangles tend to be solid but not always (*cf. Beth-shan* II, Pt. 2, Pl. XLII : 19). The dotted bisected semi-circles I would take to be a version of the sacred tree as commonly appearing in scenes with quadrupeds, but I can offer no really convincing parallel. Checkerboard on neck: *'Ain Shems Excavations IV* (1938), Pl. XXXI : 4. Obviously it is the synthesis of these motifs, rather than the motifs themselves, which points particularly to Syria.

Cypriote imitations in the Late Cypriote III Decorated fabric (B 573—B 575) can be distinguished with a fair degree of certainty. No doubt continuing excavations in the Levant will further elucidate the problems posed by the Bamboula ceramic finds.

ON TWO RARE COINS FROM SCYTHOPOLIS (BETH-SHAN)

By Nehemia Tzori

The following brief note is to draw attention to two rather unusual coins issued by the city of Scythopolis (the Greek successor of the Biblical Beth-Shan), which have come to light recently.

The first of these forms part of a hoard of 37 coins, unearthed at 'Ain-Hanatsiv (*ca.* 3 km. south of Beth-Shan), in 1948,[1] and resembles in type one published by the late Dr. Stella Ben-Dor.[2]

Description: Ae 20–21 mm., 5·85 gr. ↑

Obv. Bust of Commodus r., laureate, undraped; around (from right above), AV M AV KOMO; border of dots (see Plate V, fig. 1a).

Rev. Dionysos nude except for chlamys, standing l., resting on l. with thyrsos and oinochoe in the r.; around (NY) CK. IE. ACY. Border of dots (see fig. 1b).

The second coin, likewise from 'Ain-Hanatsiv,[3] is as follows:
Ae 18–19 mm., 4·04 gr. ↑

Obv. Bust of Commodus r., laureate, undraped; around AV KC KOMOΔ; border of dots (see fig. 2a).

Rev. Mask of Seilenos 1; around NY. CKY. IC. AC; border of dots (see fig. 2b).

The mask of Seilenos occurs for the first time on a silver tetradrachm of Aetna, 480 B.C.;[4] another type of it is to be seen on a Roman republican issue of Vibius Pansa (89–88 B.C.).[5]

Here, for the first time, a mask of Seilenos has been discovered on the coin of a Palestinian city.[6]

[1] The author is indebted to E. Cohen of 'Ain-Hanatsiv who allowed him to publish the coin.

[2] *P.E.Q.*, 1944, p. 153; Pl. V, 1.

[3] The author is indebted to Mr. A. Palthiel of 'Ain-Hanatsiv who allowed him to publish the coin.

[4] Ch. Seltman, *A Book of Greek Coins*, p. 16, fig. 56.

[5] E. A. Sydenham, *The Coinage of the Roman Republic*, p. 106, p. 20:689.

[6] The author wishes to thank Mr. A. Kindler for some valuable suggestions in connection with this paper.

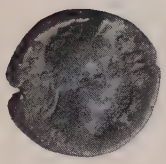

Fig. 1a

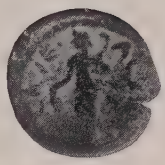

Fig. 1b

Dionysus coin of Commodus from ' Ain-Hanatsiv

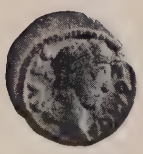

Fig. 2a

Fig. 2b

Seilenos coin of Commodus from 'Ain-Hanatsiv

REVIEWS AND NOTICES

Eretz-Israel. Archaeological, Historical and Geographical Studies, Volume Five. Dedicated to Professor Benjamin Mazar on his fiftieth birthday. Jerusalem (Israel), 1958. Published by the Israel Exploration Society and the Hebrew University. Pp. 97 (English) + 259 (Hebrew), 26 plates.

The publications of the Israel Exploration Society have earned the respect of the scholarly world, and this present volume is a worthy member of the series *Eretz-Israel*. It offers a well-deserved tribute to a scholar who has made notable contributions towards the better knowledge of the history and archaeology of the land of the Bible (as the list of his publications contained in this volume will show), and who in addition has played a leading part in educating the younger generation of Israeli scholars whose work in those fields is being felt increasingly. The work of several of them is included in the list of over 30 papers from the pen of many of the better known Israeli scholars connected with the fields of Hebrew and Palestinian history and archaeology, which make up the Hebrew section of this book; short English summaries of the contents of the papers are provided in an appendix. The English section includes papers contributed by eleven well known European and American scholars.

In view of the varied contents of this book, it may be useful to give the full list of papers contained.

The Hebrew section, in addition to a foreword and a bibliography of Benjamin Mazar contributed by H. Beinert, comprises the following essays: J. Kaplan, " Excavations at Teluliot Batashi in the Vale of Sorek "; Ruth Amiran, " Palestine, Syria and Cyprus in the MB I period "; M. W. Prausnitz, " Cylinder seal impressions in the Eastern Mediterranean area at the end of the third millennium B.C."; M. Stekelis, " An obsidian core found at Kibbutz Kabri "; M. Dothan, " Some problems of the stratigraphy in Megiddo XX "; N. Glueck, " The fifth season of exploration in the Negeb "; J. Leibovitch, " Egyptian and Hyksos art "; N. Tzori, " Cult figurines in the eastern plain of Esdraelon and Beth-Shean "; Trude Dothan, " Philistine civilization in the light of archaeological finds in Palestine and Egypt "; A. Malamat, " History and prophetic vision in a Mari letter "; N. H. Tur-Sinai, " On some historical references in the Bible "; S. R. Loewenstamm, " The bearing of Psalm 81 upon the problem of Exodus "; M. Haran, " The Ark of the Covenant and the Cherubs "; Y. Yadin,

" The Dial of Ahaz "; S. Yeivin, " Jachin and Boaz "[1]; S. Abramski, " ' Slag ' and ' tin ' in the first chapter of Isaiah "; H. J. Katzenstein, " The House of Eliakim, a family of royal stewards "; S. Talmon, " These are the Kenites that came of Hammath, the father of the house of Rechab "; J. Liver, " The Return from Babylon, its time and scope, "; Z. Kallai-Kleinmann, " En-Dor "; M. Naor, " Bet-Dagon and Gederoth-Kidron "; M. Avi-Yonah, the date of the " Limes Palestinea "; S. Morag, " Meša (a study of certain features of Old Hebrew dialects) "; I. Yeivin, " Some manifestations of *milra'* tendency in Hebrew "; H. Tadmor, " The 'Sin of Sargon ' "; B. Kanael, " Some observations on the chronology of Khirbet Qumrân "; N. Avigad, " Excavations at Beth She'arim, 1955 "; E. A. Urbach, " The laws of idolatry in the light of historical and archaeological facts in the third century "; S. Saphrai, " Beth She'arim in the Talmudic literature "; H. Z. Hirschberg, " Links between the Jews of the Maghreb and Palestine in the period of the Geonim "; J. Braslawi, " On the appointment of R. Abiathar as Gaon during his father's lifetime and on the Cave of Machpelah "; J. Prawer, " The City and Duchy of Ascalon in the crusader period "; L. A. Mayer, " Broad-houses in Jewish religious art "; I. Ben-Zvi, " The Book of Abisha."

The English section contains the following papers: W. F. Albright, " Was the Age of Solomon without monumental art ? "; C. H. Gordon, " Indo-European and Hebrew epic "; J. Levy, " The Biblical institution of Deror in the light of Akkadian documents "; E. A. Speiser, " In search of Nimrod "; G. E. Wright, " The problems of the transition between the Chalcolithic and Bronze Ages "; H. G. Güterbock, " Kaneš and Neša: Two forms of one Anatolian place name ? "; K. M. Kenyon, " Some notes on the Early and Middle Bronze Age Strata of Megiddo "; H. L. Ginsberg, " An unrecognized allusion to kings Pekah and Hoshea of Israel "; S. N. Kramer, " Love, Hate and Fear, psychological aspects of Sumerian culture "; and J. Cerny, " Stele of Ramesses from Beisan."

The general level of contributions both in the English and in the Hebrew sections is high, even though naturally not all papers reach the same standard. In view of the large number of contributions it is obviously out of the question to give a full review of all that is offered here, and where so much is good any selection must be both subjective and unfair. In the English section the paper by Albright is of importance both to art historians and Biblical scholars; the essays by Driver and Levy also offer much that is new. The paper by Miss Kenyon is a particularly useful and much needed contribution towards the better understanding of stratigraphic conditions at the key site of Megiddo, and that by Wright a useful discussion of chronological and comparative stratigraphical problems. Gordon's paper opens many

[1] English text in *P.E.Q.*, **91** (1959), pp. 6 ff.

interesting questions while Kramer's essay is both scholarly and a delight to read. In the Hebrew section there is a plethora of respectable archaeological essays: one might perhaps mention especially the very useful paper by Trude Dothan on Philistine archaeology, the clever reconstruction of the "Dial of Ahaz" by Y. Yadin, and the discussion of Kh. Qumrân stratigraphy from the pen of B. Kanael: his thesis that the settlement started its career, not as a "monastery," but as an agricultural and military strongpoint in the Maccabean period, deserves to be taken notice of by all those interested in the Scrolls. One might further pick out the topographical papers by Naor and Aharoni, and Avi-Yonah's study of the Limes Palestinæ; Miss Katzenstein offers a real contribution to the all too little known subject of Israelite and Judean administrative history, and Morag's paper marks a step forward in the study of ancient Hebrew dialects, even though one may not accept all his conclusions. Urbach gives reasons why, in a world where image-worship had practically ceased, the rabbis should have countenanced the rise of figured synagogal art; and Prawer contributes what seems to be one of the best papers in this book on Crusading Ascalon and its territory. It must, lastly, be an unusual distinction for a scientific work like this book to contain a serious contribution from the President of the State, as this volume does with the paper by Ben-Zvi.

This book deserves to be read and studied by all those seriously interested in the Land of the Bible and its past; and it is much to be wished that the more substantial papers in the Hebrew section will soon be made available also in a European language, so far as that has not yet been done.

B. S. J. Isserlin

Villages antiques de la Syrie du Nord. Le Massif du Bélus à l'époque romaine. By Georges Tchalenko. Paris: Geuthner, 1953. 3 vols., quarto, plates and maps. (Institut français d'archéologie de Beyrouth. Bibliothèque archéologique et historique, tome L.)

These volumes comprise a study of the limestone ridge in Central Syria, from Apamea in the south to the Gebel Sim'an and Cyrrhus in the north—an area which is thickly covered with early Christian buildings and settlements. Architectural studies of many of these have been undertaken in the past by such eminent scholars as de Vogué, Butler, Matterne and others. But Georges Tchalenko and his colleague, Jean Lassus, who were in charge of the preservation and restoration of these monuments under the French Mandate, are the first to have made a detailed and comprehensive study of the whole area, of which these volumes are the outcome.

The author has set out to examine the position of this region of Syria, its natural resources, the reasons for its settlement in the early centuries A.D., and for the final abandonment in the 7th century. The first chapters are concerned with the types of buildings, churches, convents, sanctuaries,

houses, funerary monuments, as well as the industrial and social buildings as markets, androns, olive presses, quarries and cisterns, and their disposition with regard to natural conditions of water, vegetation and communications.

The two principal chapters describe typical monuments and sites of the internal plains and of the more mountainous area, supported by numerous distribution maps and plans and isometric drawings of many buildings which have not previously been recorded.

Detailed reconsideration of such well-known sites as Qa'lat Sim'an bring into new perspective the popularity and importance of a place of pilgrimage centred on the Stylite St. Simeon. Others like Bamuqqa, in the mountain area, have grown up round a villa and include the agricultural buildings and installations which were built for the cultivation of the district. These studies yield a vivid picture of the settlements in their heyday as well as show their development.

But perhaps the most interesting part of the work is concerned with the agricultural development of the region. The author believes that the countryside was no different from to-day. The small plains were always capable of growing cereals to support a limited number of inhabitants, but the olive plantations on the rocky plateau involved a planned development. This highly organized production of olive oil is ably deduced from the monuments; but as the tending of the trees was seasonal, it was possible for the peasants to find other work, as stone masons, during part of the year and they would not be dependent on the farms all the year round.

The author attributes the rise of the plantations to the settlement of pensioners and others by the Romans in the first three centuries A.D., who in return for grants of land were under obligation to plant trees and share the profits in due course with the peasant workers. With the large demand for olive oil in the west, these plantations were very profitable and during the fourth to sixth centuries the area was very rich, for the pilgrims to the convents established round the hermits and teachers also brought wealth to the region.

The author considers that the sudden cessation of occupation was due not to the devastation of the olives, but rather to the Persian occupation for ten years at the beginning of the seventh century which cut off the area from the sea whence the oil had been exported to the west, thereby leaving the inhabitants without a means of livelihood.

The third volume contains appendices on the inscriptions by M. Seyrig, together with detailed and analytical indexes.

Throughout this monumental study many other interesting facets of the region, geographical and historical as well as social are brought out. With its fine illustrations and numerous maps, it is a model of what can be done in bringing a region to life from the archaeological remains.

J. du Plat Taylor

The Antiquities of Jordan. By Gerald Lankester Harding. London: Lutterworth Press, 1959. Pp. 223. 25*s*.

Here is a book which does justice to the vast wealth of archaeological material which is present in the Hashemite Kingdom of Jordan.

Mr. Harding spent many years in charge of the Department of Antiquities of the Jordan Government, and it is apparent from his book that he entertains a personal affection for the country, its people and his work. The field which he covers is virtually a history of mankind; commencing with the palaeolithic hand-axes which litter the eastern desert; going on to neolithic Jericho where the oldest known township was excavated only a few years ago; then through the biblical ages of Amman, Gilead, Moab, Edom, until the coming of the Hellenistic culture, which was the foundation on which the Romans built their Empire. Greek and Roman remains are common in the countries which surround the Mediterranean, but in Jordan they are combined with a unique Arab civilization brought from the Arabian peninsula by the people known as the Nabataeans. In the ruined town of Petra the natural colours of the towering sandstone cliffs are skilfully adapted by the Nabataean workmen in such a way that the façades of the rock-cut temples, tombs and dwellings look as though they were freshly painted in vivid pigments.

The Romans changed their name to Byzantines and then the empire which had ruled Jordan for nearly seven hundred years was overthrown by the Arab armies which a new prophet and a new faith had raised and sent out to conquer the known world. The castles, palaces and baths which the desert-loving caliphs of Damascus, the Ummayads, built in and on the edges of the land of the nomads, still stand today in a surprisingly good state of preservation.

The next series of monuments was that of the fortresses which were built during the time of the Crusades. These were immensely strong but their strength seemed to fail to resist their besiegers' will to conquer, although it did ensure that the edifices should stand almost intact seven hundred years later. These castles were the last monuments of any interest to be built in Jordan before the long period of stagnation under the rule of the Ottoman Turks commenced.

Mr. Harding played a major part in rescuing from loss and destruction many of the ancient scrolls which were discovered in caves near the shore of the Dead Sea just as the British Mandate over Palestine was coming to an end. His contacts with the local beduin tribes and their trust in his character enabled him to trace and acquire at reasonable prices fragments and sections of the precious writings which were in danger of destruction in the hands of unskilled antique peddlers. He also co-operated with the Dominican fathers in excavating the remains of Khirbet Qumran, near to which the scrolls were discovered, and which is assumed generally to be an Essene settlement.

The book is well illustrated by numerous photographs and maps.

A. S. Kirkbride

The Ancient Near East. An Anthology of Texts and Pictures. Edited by James B. Pritchard. Princeton University Press. 1958. Pp. 380, 197 illustrations. 40*s.* net in U.K. only.

The plums from two magnificent volumes, *Ancient Near Eastern Texts* (1950), and *The Ancient Near East in Pictures* (1954), both edited by Professor James B. Pritchard, are combined and served up in the present palatable anthology. In his review of the picture book, Professor Hooke complained that the price was " the only fly in the ointment," and he wondered how many students could afford to pay £8 for a single book.[1] Now, five years later, Professor Pritchard offers a distillation of much scholarship for a sixth of the original price, taking both volumes together, and every student and every reader of the Bible and of near eastern history will be grateful to him and his collaborators.

The names of the eleven translators and annotators of the original texts act as guarantors for the quality of the work, the notes form a valuable glossary, and the addition of Biblical references in the margin makes it easy to turn up relevant passages and a pleasure to read the narrow columns of print. The extracts of ancient texts illustrate a general parallelism of thought or structure between Egyptian and Hebrew literature, and indeed they form part of a literary tradition which goes back to the end of the third or to the beginning of the second millennium B.C. Our clergy may find refreshing texts for their sermons in this handy compendium of man's religious wisdom.

O. Tufnell

Chrestomathia Baidawiana. The Light of Inspiration and Secret of Interpretation. Being a Translation of the Chapter of Joseph (Surat Yusuf) with the Commentary of Nasir Id-Din al-Baidawi, by Eric F. F. Bishop, M.A., with the help of Mohamed Kaddal, M.A., B.Litt., Department of Arabic, University of Glasgow. Glasgow: Jackson, Son & Company, Publishers to the University. 1957. 60 pp.

In view of the fact that al-Baidawi's is the most revered commentary on the Qur'an, it is surprising how little of it has been translated into English. One welcomes, therefore, the publication of Mr. Bishop's translation of al-Baidawi's commentary on Surat Yusuf. This Sura, with the commentary, holds more intrinsic interest than most, with its many additions to and divergences from the Biblical record and Jewish traditions of the story of Joseph. For instance, the name Zulaikha, given by al-Baidawi to Potiphar's wife, does not appear in Genesis; she is called Zelika in the *Sefer ha-Yashar* and other Midrashic works—the name perhaps deriving from Arabic sources.

[1] *P.E.Q.* **87** (1955), pp. 186 f.

Thus Mr. Bishop's translation may be recommended not only to students of the Qur'an, but also to students of Old Testament and Midrash.

The translation is sound and scholarly. Al-Baidawi's Arabic is terse and often obscure, and Mr. Bishop has done well to make him so intelligible to the English reader. If the English is a little heavy, it does at least reflect the spirit of the original! The footnotes are valuable, too, relating as they do the views of other Islamic commentators (such as Tha'alabi), where they diverge. The book deserves a place with D. S. Margoliouth's translation of Sura III (*Chrestomathia Baidawiana*, London, 1894).

D. F. Payne

The Scribal Character of the Dead Sea Scrolls. Volume II. By Malachi Martin, S.J. Louvain: Publications Universitaires, 2, Place Cardinal Mercier. Institut Orientaliste, 101, Boulevard de Tervuren. 1958. ii, 305 (pp. 411–715, paginated continuously from Volume I), 14* pp. 400 fr.

With this second volume Father Martin completes his monumental dissertation, the earlier part of which was noticed in *PEQ* **91** (1959), pp. 140 f. This volume deals with scribal revision of the Scrolls. By the Scrolls we are to understand here the six major Scrolls from Cave 1 (excluding the Genesis Apocryphon); by scribal revision we are to understand such scribal activity as (*a*) is subsequent to the transcription of the linear text of a Scroll, (*b*) is concerned with the orthography of particular words and the amplification or modification of phrases and sentences, and (*c*) makes use of certain recognizable methods of procedure which Father Martin describes as the techniques of scribal intervention.

The main body of the volume is devoted to a detailed catalogue of instances of such scribal revision throughout the six manuscripts studied. The chief occasions of scribal revision appear to be the insertion of *matres lectionis*, the correction of weaknesses in the use of gutturals, the correction of obvious errors like haplography, dittography and so forth, and the provision of alternative readings. Under this last heading are grouped variants which affect the grammatical form with no material alteration in sense, and those which give a different meaning. As far as the Biblical texts are concerned—but much less in 1Q Is^{b} than in 1Q^{a} Is—these variants make it possible to discern the influence of a text agreeing now with MT, now with LXX, and now with neither; others correspond to readings which are either Q^{e}re or K^{e}thibh in MT.

If there was a scribal school at Qumrân, from which these documents have proceeded, Father Martin concludes that it cannot have imposed any uniformity in handwriting, orthography or Biblical text. He finds it difficult, therefore, to suppose that the documents as a whole were locally transcribed and compiled. "Once one concedes that the manuscripts were transcribed

or compiled in geographically separate and scribally different places, a major difficulty is removed. Whether the Qumrân manuscripts of diversified provenance belonged to the ' men of Qumrân ' or whether later scientific researches will dissipate these shadowy figures into the unreal atmosphere of disproven hypotheses, there remains much work to be done and many cherished theories to be forsaken before anything approaching a satisfactory and total solution can be formulated " (p. 715).

Other scholars may draw their own conclusions from the data which Father Martin has so painstakingly compiled, but all who work in this field will feel grateful to him for digesting and presenting the data as he has done.

F. F. B.

The Dead Sea Community: Its Origin and Teachings. By Kurt Schubert. London: A. & C. Black. 1959. xi, 178 pp. 12*s.* 6*d.*

The Professor of Jewish Religion and Culture in the University of Vienna has given us, if not (as the publishers' blurb says) " the first practical guide of unimpeachable academic quality to the history and characteristics, the beliefs and practices, of the Qumrân sect with whom the Dead Sea Scrolls originated," at least a sober and trustworthy study of the subject. He summarizes the story of the discovery of the scrolls and the excavation of the Khirbet Qumrân, but his main concern is the life and thought of the Qumrân community, its messianic hope, its relation to other Jewish sects and to New Testament Christianity. He regards the men of Qumrân as spiritual descendants of the *ḥasidim*, and identifies them with the Essenes, although he recognizes differences between what we know of the men of Qumrân and what we are told of the Essenes by our classical authorities—but, as he points out, there are conflicting details even in our classical authorities. " Some of the questions which are still outstanding will doubtless be answered once all the texts from the caves of Qumrân are published " (p. 79). There is an examination of all the available evidence on the Qumrân community's ideas with regard to the state of the dead, resurrection and immortality; but the conclusion remains uncertain; here too we must hope that texts as yet unpublished will supply further information.

F. F. B.

Les Esséniens. By Henri Sérouya. Paris: Calmann-Levy. 1959. 244 pp. 960 fr.

This addition to the series " Liberté de l'esprit " deals with a subject in which a new interest has been kindled by the Qumrân discoveries. M. Sérouya is not disposed, however, to identify the Qumrân community with the Essenes, and he is equally sceptical about attempts to explain Essenism as a

branch of Neopythagoreanism, although he admits that the Essenes may have been influenced to some extent by Neopythagorean ideas. A final section considers the possible contacts between Essenism and Christianity. The author is concerned throughout to warn his readers against overworking the comparative method.

F. F. B.

Neutestamentliche Apokryphen in deutscher Übersetzung. By Edgar Hennecke (†). Third, completely revised edition by Wilhelm Schneemelcher. Vol. I: The Gospels. Tübingen: J. C. B. Mohr (Paul Siebeck). 1959. Pp. VIII, 377. Price unbound DM. 19·60; bound DM. 24·00.

Interest in descriptions of the life of Jesus—or of his contemporaries and successors—has at no time been confined to the study of relevant books of the Bible. The so-called apocryphal New Testament writings which exceed in volume those enjoying canonical status have always attracted a measure of attention, though from various motives. To-day, it is not so much desire for religious edification or for exact biographical information which is the ground of our interest in apocryphal records. Rather it is hoped that the study of non-canonical literature will assist our understanding of the literary origin of the Gospels, the process of their formation, or, at least, of the development of Christian thought and doctrine.

Undoubtedly the most scholarly edition of the New Testament Apocrypha was Edgar Hennecke's *Neutestamentliche Apokryphen*, which has been out of print for a number of years. The book here reviewed is referred to on its title-page as its third edition. Actually it is a completely new undertaking with practically all its contributions revised and the contents considerably enlarged. English readers will see that its structure and plan differ from James's *The Apocryphal New Testament* ([1]1924; [2]1955). Professor Schneemelcher, of Bonn, the general editor, secured the co-operation of a number of specialist-scholars for the preparation of this new edition. And so it is the work of a whole team. A further difference lies in the fact that the present work, besides containing introductions to particular apocryphal writings, also contains what are virtually monographs on specific questions, such as "The History of the New Testament Canon," "What are the Apocrypha?" and "The History of the Study of Apocryphal Writings," as well as dissertations on the relationship of particular non-canonical texts to the communities that produced and used them for the spreading of their own theological notions or for devotional services.

The first volume of *Neutestamentliche Apokryphen in deutscher Übersetzung* contains apocryphal Gospels or fragments of writings of a Gospel type. It is customary to distinguish among New Testament Apocrypha "Gospels of the Infancy," various descriptions of the Life or Sayings of Jesus that emanated from certain "sectarian" or "heretical" groups, and Passion and

Resurrection Narratives. As far as documents from other than gnostic provenance are concerned, this customary division of the materials has more or less been adhered to by Professor Schneemelcher and his collaborators. Such texts as are included are provided with expert introductions, stressing the features of each record both as regards its literary origin and its theological characteristics. Besides writings of the above mentioned types, the collection is enriched by the inclusion of texts not normally found in an edition of the New Testament Apocrypha. Thus we find the papyrus Egerton 2 and a fair number of the Oxyrhynchus papyri (introduced and translated by J. Jeremias and W. Schneemelcher), the fragments from Judæo-Christian Gospels, with a balanced account of the present state of research into the problem of Jewish-Christian Gospels, stating the reasons for postulating three such writings (Ph. Vielhauer). Also there are various post-resurrection discourses between Jesus and his disciples (J. Jeremias, H. Duensing, W. Schneemelcher) which merit attention. The most significant novelty, however, is the inclusion of gnostic literature to which a considerable amount of space (pp. 158–271) has been allotted. The general editor entrusted this entire section (the "Gospel of Thomas", pp. 199–223, has also been dealt with in connection with the Oxyrhynchus papyri) to the hands of Professor Henri-Charles Puech (Paris). Gnostic texts that were formerly known—or patristic versions of such texts—have now to be read in the light of the fuller knowledge arising from the discovery of the library at Chenoboskion (Nag Hammadi). Legal difficulties prevented the inclusion of large sections from the so-called *Evangelium Veritatis;* the editors had to be content with paraphrasing the contents, with quotations, and with an appreciation of the general character of the book. The essentials, however, are there. (It may be said that this is a much more satisfactory way of making this text available to the public than by printing the Coptic text together with translations into three modern languages. The Coptic should, of course, be published, preferably in facsimile, for linguists, while translations into modern languages might be done separately and published in one language at a time, to keep the cost of production at a reasonable level). The assignment of practically all gnostic texts to one scholar has resulted in a consistent and well-proportioned treatment of the subject literature. On the other hand, such an assignment involves a certain danger of subjectivism. Scholarly arguments concerning the authorship and significance of the so-called *Evangelium Veritatis* have not yet reached anywhere near the point of general agreement. It is natural that Professor Puech, who took an outstanding part in the study and publication of this document, has been influenced in his views on gnostic tenets in general by his own concept of what *The Gospel of Truth* conveys and typifies.[1]

[1] A new translation of the *Evangelium Veritatis*, by Dr. Walter Till, of Manchester University, is provided in *ZNTW* **50** (1959), pp. 165–184.

In addition to apocryphal writings of a Gospel type, Schneemelcher's edition of Hennecke's *Neutestamentliche Apokryphen* also contains an evaluation of certain isolated reports about Jesus, *e.g.*, the much disputed Testimonium Flavianum (W. Bauer).

The printing has been done carefully. The reviewer has detected only two errors: one on p. viii (" Orientalistische Literaturzeitung "), the other on p. 332 (in the name " Jaroslav Sedláček ").

This is without doubt the most scholarly and most comprehensive edition of apocryphal writings dealing with the life or sayings of Jesus. A second volume, devoted to records on the activities of the Apostles, is planned to follow.

PAUL WINTER

Die Apostolischen Väter, Griechisch und Deutsch. Introduced, edited, translated and explained by Joseph A. Fischer. München: Kösel-Verlag. 1956. Pp. xv, 281. Price DM. 25·80.

In a handy, beautifully printed volume, the present book contains careful critical editions of the text of the First Epistle of Clement of Rome, of the seven genuine Epistles of Ignatius of Antioch, of the two Epistles of Polycarp of Smyrna, and of the fragment from the Apology of Quadratus. The text is furnished with a critical apparatus, mentioning *variæ lectiones*. There are also translations into German, with notes giving scriptural references. Each of the " Apostolic Fathers " is introduced to the reader in a scholarly way.

The limitation to a relatively small number of authors from among those ordinarily understood by the designation " Apostolic Fathers " is due to dogmatic considerations. Writings that express views too obviously discordant with Catholic dogma have been left out. This principle is hardly to be recommended for the reader who is interested in what was written, and believed, in the second century rather than in what is being believed now. If the ultimate criterion as to what should be included in modern editions of early Christian literature were to be sought in the doctrines which enjoy ecclesiastical approval to-day, indeed many parts of the New Testament itself would fail to stand such severe editorial test.

Apart from the somewhat arbitrary selection, the present edition of such writings from the " Apostolic Fathers " as are included in this volume has been done conscientiously and in a scholarly fashion.

PAUL WINTER

The Committee have to acknowledge with thanks the following:—

American Journal of Archaeology. Vol. 63, Nos. 2, 3, 4, 1959. Vol. 64, No. 1, 1960.

American Journal of Philology. Vol. LXXX, Nos. 2, 3, 4, 1959.

Anatolian Studies. Vol. IX, 1959.

Antiquaries Journal. Vol. XXXIX, Nos. 1, 2, 1959.

Biblica. Vol. 49, Nos. 1 to 4, 1959.

Biblical Archaeologist. Vol. XXII, Nos. 3, 4, 1959.

Bulletin of American Schools of Oriental Research. Nos. 154, 155, 1959.

Bulletin of the Israel Exploration Society. Vol. 23, Nos. 1, 2, 1959. Nos. 3, 4, 1959.

Bulletin of the Institute of Archaeology. No. 1, 1958.

Expository Times. Vol. LXX, No. 7, 1959.

Harvard Theological Review. Vol. LII, Nos. 1 to 4, 1959.

Israel Exploration Journal. Vol. 8, No. 4, 1958. Vol. 9, Nos. 1, 2, 1959.

Jewish Quarterly Review. Vol. XLIX, No. 4, 1959.

Journal of the American Oriental Society. Vol. 79, Nos. 1 to 4, 1959

Journal Asiatique. Vol. CCXLVI, Nos. 2, 3, 1958.

Journal of Biblical Literature. Vol. LXXVIII, Part I to IV, 1959.

Journal of the Royal Anthropological Institute. Vol. 89, Part I, 1959.

Journal of Semitic Studies. Vol. IV, 2 to 4, 1959. Vol. V, No. 1, 1960.

Les Annales Archeologiques De Syrie. Vol. VIII and IX, 1958 and 1959.

Nea Zion. October-November-December, 1958.

Nouvelle Revue Théologique. Vol. 81, Nos. 3 to 9, 1959. Vol. 82, No. 1, 1960.

Oriente Moderno. Vol. XXXIX, No. 2, 1959.

Revue Biblique. 66th year, Nos. 1 to 4, 1959.

Scripture. Vol. XI, No. 14, 1959.

Syria. Vol. XXXVI, 1 to 4, 1959.

Zeitschrift des Deutschen Palastina-Vereins. Vol. 74, Nos. 1, 2, 1958. Vol. 75, No. 1, 1959.

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THE
PALESTINE EXPLORATION FUND
NOTES AND NEWS

Within five years the Palestine Exploration Fund will be celebrating the centenary of its foundation in 1865. It is therefore an opportune moment to review the position of the Fund in relation to the very different world of today, and to define more closely its special objectives in the future.

When the Fund was founded, there was no comparable body in existence and the whole of Western Asia came within its scope. With the changes which have occurred in political and cultural boundaries, the Fund is now able to concentrate on those lands which are most closely connected with the Bible, although its interests are not confined to the Biblical period. As the senior exploration fund in the United Kingdom, it hopes to continue its support of all enterprise related to its aims as defined in the Memorandum of Association.

Members of the Fund may review their predecessors' achievements with satisfaction, and with special gratitude to those who have contributed towards them. These achievements have been faithfully recorded through the years in the *Quarterly Statement*, now the *Palestine Exploration Quarterly*, embodying the *Bulletin* of the British School of Archaeology in Jerusalem.

On the joint initiative of the Fund and of the British Academy, the British School of Archaeology was established in 1919 by private generosity. It was the first of such Schools to be set up outside Europe, and, after the models of the British Schools in Athens and Rome, its objects are to provide a local centre of research in the archaeology of Palestine for British scholars, and to give a training to students.

New premises were opened in Jerusalem (Jordan) in 1957, to house the Library of the School and to provide accommodation for scholars, students and subscribers to the School and to the Palestine Exploration Fund.

The main part of the first of the British School of Archaeology in Jerusalem's post-war activities, the excavations at Jericho, has now been concluded. A report of the final season of 1957–58 appears on pp. 88ff. For two years, while the publication of *Jericho* has been set in progress, work in the field has been on a smaller scale. The Secretary-Librarian of the School (now, since March, 1960, the Assistant Director), Mr. P. J. Parr, has carried out

two seasons of work at Petra, and a third will begin in August, 1960; a report on the work to date appears on pp. 124ff. Miss Diana Kirkbride, holder of the School's Scholarship, has completed two seasons of work at the Neolithic site of Beidha, near Petra, and it is hoped that this also will be followed by a third season; Miss Kirkbride's report appears on pp. 136ff. In addition, Mr. Parr has carried out two brief seasons of work at Jericho, on certain problems for which further examination seemed desirable.

The time has now come to consider the School's next major undertaking, which is not an easy question. There is no doubt that there is much to be done ancillary to the work at Jericho. Jericho in the Neolithic periods certainly did not stand alone, and in order to obtain a complete picture of these early periods upon which the excavation of Jericho has thrown such surprising light, it is desirable that the settlements contemporary with the early stages of Jericho should be found and investigated. But on the whole it seems probable that most of these sites will be on a small scale, and can best be investigated by small expeditions, such as that of Miss Kirkbride at Beidha. On such expeditions, as that at Petra, only a limited number of students can be accepted, and it is desirable that the School should have as its main activity an excavation at which the considerable number of students attracted to Palestine archaeology can be employed and trained.

The site with which British archaeology in Palestine has been longest associated is Jerusalem. It is moreover a site as much in need of investigation by modern methods as any, for the complicated problems of its history are such that there is little that is certain until about the second century A.D., a date probably some three thousand years later than the first occupation of the site. This uncertainty is due partly to disturbance of earlier remains by later structures, but largely to the fact that much of the ancient site is covered by modern buildings. Here there is today an opportunity comparable to that given by the destruction by bombing for the investigation of Roman London. This is provided by the ruined area of the Jewish Quarter in the Old City; it is certainly the duty of archaeologists to excavate here before rebuilding takes place. Excavations in this area will provide the opportunity of seeing what evidence survives in the western of the two hills. It is also desirable that excavations should be carried out on the eastern hill, and it is therefore proposed to excavate on the area to the south of the Haram esh-Sherif. A third area available, smaller in size, is a waste plot in the Muristan, the property of the Order of St. John of Jerusalem.

The excavation of these areas in Jerusalem is therefore the plan of the School, with which it is hoped the Palestine Exploration Fund will be associated. It now remains to raise the necessary finance.

News of more Dead Sea Scrolls has come to hand—this time from Israeli territory. These fresh discoveries have been made in a number of almost

inaccessible caves west of the Dead Sea, which, like the caves at Murabba'at farther north, were evidently used as outposts by members of Bar-Kokhba's guerrilla bands during the war of A.D. 132–135. Among the documents are two scroll fragments inscribed with Exodus xiii, 1–16, and a small fragment containing parts of seven lines of Psalm xv. In one cave eleven arrow-heads and shafts were discovered; other discoveries include a Bar-Kokhba coin and a palm-leaf basket holding a unique set of nineteen Roman pieces of brass, possibly legionary cult vessels, including twelve libation jars, three incense shovels, a pan, two large bowls and a large key. A figure of Serapis on the handle of one of the jars was badly scratched; it has been thought that the whole collection of vessels had been captured by the insurgents in a sortie, and the likeness of the pagan deity dutifully defaced. In a goatskin bag a papyrus package, folded fifteen times, was discovered, together with various articles of feminine property, such as weaving material, skeins of wool, a spinning wheel and a mirror. From a vulture's nest in the vicinity a sock was recovered, with the name of a member of the Engedi kibbutz sewn on. Professor Yadin remarked that, but for this identification mark, someone would probably have tried to date the sock, such are the preservative qualities of the dry climate there.

From another part of Israel comes news of an inscription of a different kind. During the excavation last January of an ancient fort south of Tel-Aviv fragments were found of a Hebrew letter written in ink on potsherds, datable to the latter half of the seventh century B.C. The fragments when placed together reveal a total of 14 lines of writing. The letter is an appeal from a peasant to his lord for the return of his cloak, which had been seized for non-payment of a debt (cf. Exodus xxii, 26f.). The peasant denies that he is in debt. It has been inferred from the date and location of the letter that the area, which had until recently been part of the Assyrian province of Ashdod, must have been recovered by the kingdom of Judah—presumably by Josiah after the decline of Assyrian control in the west—and settled with Jewish peasants. It looks, indeed, as if Josiah by the end of his reign extended his power over practically all the territory west of Jordan that had formed part of David's kingdom.

The recent excavation at Ghassul, the beginning of which was mentioned in the Notes and News of our last issue, continued until February 20, the date of the excavators' last news-release. This eighth campaign on an important site was particularly important for the fresh evidence of painted frescoes which came to light. " Ghassul ", say the excavators, " is essentially a vast fresco-factory. Three of our biggest areas are bursting with painted-plaster walls, both fallen and standing ". They do their best to describe some of the fantasies which they have discovered, but suggest that their readers would do well to wait until they see photographs. One of the first examples which came

to light during the campaign was " a wall-fresco not only as striking and imaginative as the famous ' Ghassul Star ', but executed on a *curved* vault-like surface embodying *projections*. The rays of one or several stars pass through a sort of *crater* formed in the plaster, and apparently intended to hold a ball-shaped precious stone or some similar object. The plaster is a dull gray, not the gleaming white of several other painted walls; and the colour is a dull red. Underneath the surface-layer bearing the painting there is at least one other layer painted with a design, in a brighter red ". The task of removing the plaster has been particularly delicate, presenting some problems which still await the ideal solution. Among other discoveries was one whose interest was macabre rather than archaeological—a colossal skeleton (" was he maybe an English Crusader? ") which in default of alternative accommodation had to occupy Father North's bed over the Christmas season.

On his way back from an American expedition in quest of Safaitic inscriptions in the vicinity of pumping-station H4 on the I.P.C. pipeline, near Jordan's frontier with Iraq, Mr. G. Lankester Harding was browsing around in the basement of the Amman Museum when he came across a piece of a three-line Moabite inscription which mentions a hitherto unknown king of Moab. The inscription apparently came from the Kerak area, but the remaining piece or pieces could not be found. This discovery gives rise to hopes that further Moabite records, over and above the Mesha stele, may yet come to light.

The American archaeological expedition which has been excavating for seven seasons at the site of Dothan, six miles from Jenin, in N.W. Jordan, under the directorship of Professor Joseph P. Free, has come upon a 3,000 year old tomb containing more than 900 objects. There are indications that it may have been the tomb of a warrior of the time of the Judges. Also there were signs of an earthquake having occurred, which, it is suggested, may have been the one mentioned by Amos. Many of the lamps and jars date back more than 200 years before Solomon. So far 15 different levels have been found, showing that the city began some 5,000 years ago, and was destroyed and rebuilt several times through the centuries. On top of the mound, the excavators uncovered the city built after the military invasion and destruction by the ancient Assyrians about 700 B.C. The walls, rooms, houses, storage chambers, and other remains of this part gave a clear idea of Palestinian life nearly 3,000 years ago. Ancient writing on a potsherd from this period was one of the outstanding discoveries of the present season.

In recent issues of *Harefuah* (the journal of the Medical Association of Israel) our contributor Dr. Josef Meyshan, whose authority in the numismatic field is well known to our readers, turns his attention to a couple of medical problems—the diagnosis of the diseases which caused the deaths of Herod

the Great and of his grandson Herod Agrippa I. From Josephus's description of the disease of Herod the Great he infers that " Herod suffered from a malignant tumour of the pancreas (perhaps an islet cell tumor in the tail of the pancreas) with metastases in the peritoneum and thorax and thrombosis of veins of the abdomen and lower extremities ". As for the elder Agrippa, " there is every reason to believe that, on an order from Rome, Agrippa had been poisoned with arsenic, the classical poison of ancient times ".

A new periodical which contains much that will interest readers of this *Quarterly* is *The Annual of the Leeds University Oriental Society*, edited by Dr. John Macdonald and published by E. J. Brill, Leiden. The Leeds University Oriental Society has been established under the auspices of the University Department of Semitic Languages and Literatures. Volume I of the *Annual* (1958–59), which costs 8 guilders (approximately 16*s*.) contains 76 pages (in addition to title and contents pages) and includes an introduction by Professor A. Guillaume, President of the Society, lists of publications of the Department and reproduced Hebrew, Aramaic and Arabic texts available from the Department, and articles on Old Testament Miracles (C. J. Mullo Weir), Samaritan Researches (J. Bowman), Al-Jāḥiẓ and Ad-Damīrī (J. de Somogyi), Jewish art in the Period of the Second Temple (B. Kanael), and the Dead Sea Habakkuk Scroll (F. F. Bruce). We hope that this *Annual*, and the Society whose journal it is, will have a long and prosperous career.

EXCAVATIONS AT JERICHO, 1957–58

By KATHLEEN M. KENYON

The final season of the present series of excavations at the site of ancient Jericho took place from October, 1957, to February, 1958. The expedition was sponsored by the British School of Archaeology in Jerusalem, the Palestine Exploration Fund and British Academy. As usual, a warm welcome was extended by the Department of Antiquities of the Hashemite Kingdom of Jordan, and to the Director of the Department, Es-Sayyed Said Durra, and the Assistant Director, Dr. Awni Dajani, we would wish to express our warm thanks for their constant assistance and advice.

The expedition was once more fortunate in help received from kindred organizations in Jerusalem. Though the American School of Oriental Research did not in this season collaborate in the excavations, the equipment of the School was as usual at our service, and its Director, Dr. Neil Richardson, who had worked with us in 1953, was able to join us for a short period; it has given us great pleasure that the American School has been so closely associated with us throughout the work at Jericho, an association of which I was being continually and pleasantly reminded during my recent lecture tour in America, in which I met those who had worked with us in a great many of the universities I visited. Another source of assistance throughout was the Palestine Archaeological Museum, and once more we were able to make use of the Museum's equipment and of the services of its photographer, through the kindness of its Curator, Mr. Yusef Sa'ad. In all seasons, the members of the École Biblique de St. Étienne have taken a great interest in our work, and we have welcomed many visits from Père de Vaux and the fathers and students. This year we were very happy to have two of the fathers as our colleagues. In an emergency need for a surveyor, I appealed to Père de Vaux, and he was able to arrange that Père Couäsnon and Père Rousée should come to our assistance. We are most grateful to these two fathers for their hard work and for Père Couäsnon's beautiful plans, especially since they had so many other commitments in connection with the other activities of their School.

On pp. 111ff. are published a summary of the accounts covering the seven seasons of work at Jericho. From these will be seen the extent to which this expedition has been dependent on financial help from many sources. For the final season, we are especially grateful for generous contributions from the Russell Trust, the Birmingham City Museum and the Ashmolean Museum, and for a very considerable anonymous individual donation, but to all our supporters a very real debt of gratitude is due for most welcome contributions

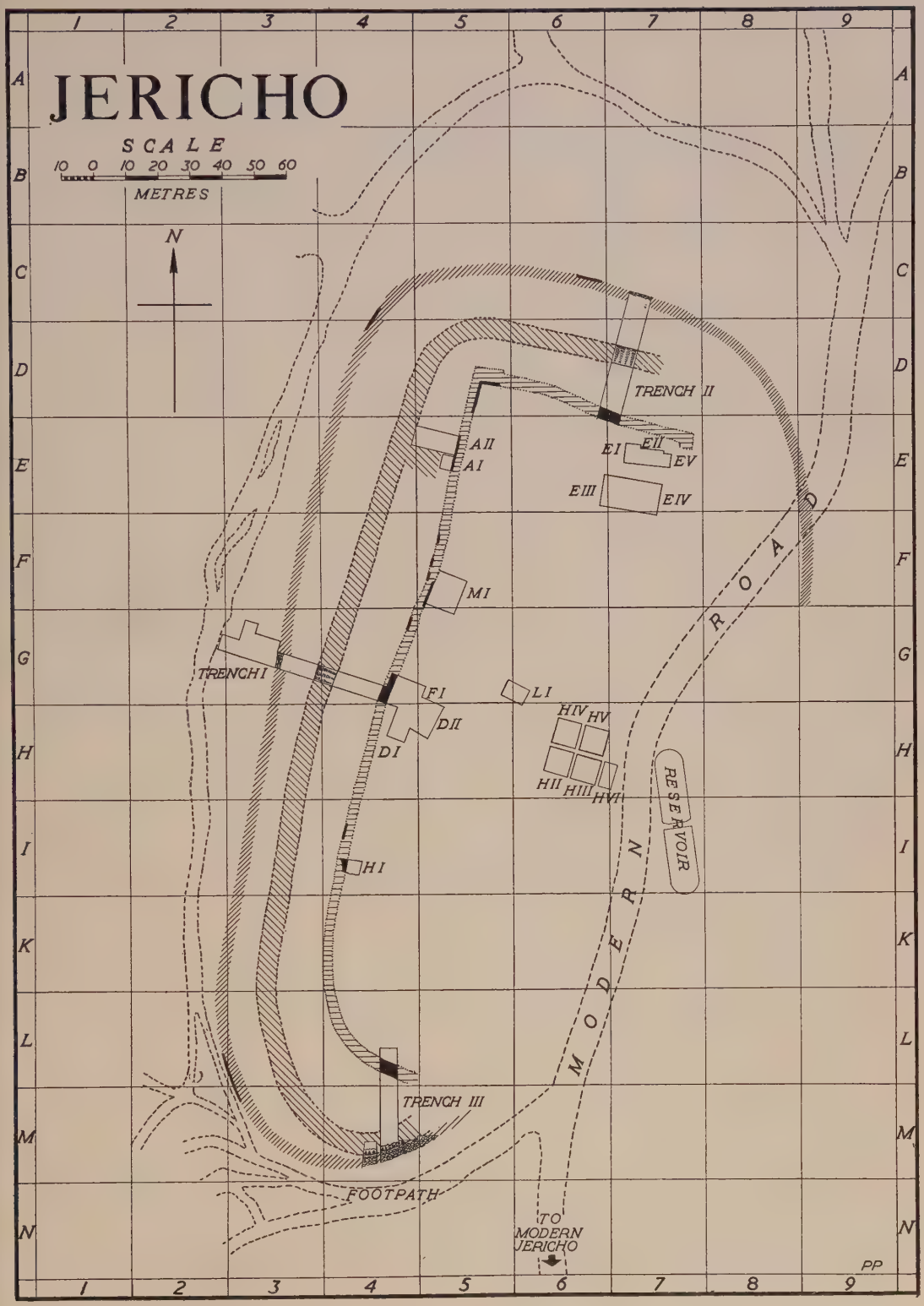


Fig. 1

Plan of Jericho showing excavated areas

often repeated on a number of occasions. A grant from the Department of Scientific and Industrial Research enabled Dr. J. C. Trevor to join the expedition to work on the skeletal remains, and Dr. Gottfried Kurth, assisted by Dr. Günther Apel, were once more enabled to work on the Neolithic skeletal remains by a generous grant from the Deutsche Forschungsgemeinschaft. The final season has been the most expensive; in length it was meant to make up for the short season in the spring of 1957, and it was essential to complete a number of pieces of work. There were many financial worries before the task was completed, but generous additional help from a number of sources enabled all the work planned to be carried out.

The staff of the expedition was as usual an international one, with representatives from the United Kingdom, America, France, Holland and Germany[1]. All played a most valuable part in the successful conclusion of the work at Jericho.

It would require decades to excavate Tell es-Sultan completely. Only complete excavation would of course give an unambiguous picture of life on the site at all periods. To set about such a task would be a tremendous undertaking, and experience between the two wars showed how impossible it is to plan such an undertaking. Through changes of circumstances the great plans to excavate the important sites of Megiddo and Tell Duweir were frustrated, and in the light of experience one can say that far more would have been accomplished with the great sum of money actually expended if this had not been devoted to so much preliminary work and to the complete clearance of the comparatively uninteresting upper levels. In my view, moreover, it is ill-advised for any one generation of archaeologists to undertake the complete excavation of a *key* site. Archaeological technique improves with each generation of archaeologists, and however thoroughly one attempts to excavate a site, one should hope that one's successors will have improved techniques and more accumulated experience at their disposal. Substantial portions of the key sites should therefore be at the disposal of the next generation to test the results of their predecessors.

It was therefore never planned to excavate completely what remained of the tell of Jericho after the work of previous expeditions. The main aims were two, firstly to obtain as much evidence as possible about the Biblical period, with its great importance for the chronology of Palestine in the Late

[1] Director: Miss K. M. Kenyon; Site Supervisors: Mrs. Bennett, M. Biddle, C. Gibbs, Dr. H. Franken, Mrs. James, Miss D. Kirkbride, Miss R. Lahr, S. Knight, Miss C. Macdougall, P. Parr; Surveyors: Père H.-M. Couäsnon, Père P. Rousée; Photographer: P. Dorrell; Draughtsman: W. Ball; Technical Assistants: Miss A. Battershill, Miss A. Brocklebank; Anthropologists: Dr. J. C. Trevor, Dr. G. Kurth, Dr. G. Apel; Assistant for Animal Bones: Miss A. Grosvenor-Ellis; Tombs Supervisor: Lady Wheeler; Tombs Assistant and Laboratory Expert: Mrs. Dorrell; Tombs Draftsman: Miss H. Frost; Registrar: Miss D. Marshall; Assistant Registrar: Miss R. Trehearne-Thomas; Camp Supervisor: Miss K. Keen.

Bronze Age and the beginning of the Iron Age, and secondly to trace in as much detail as possible the early Neolithic levels, of an interest extending far beyond the bounds of Palestine from their bearing on the beginnings of settled life. Between these chronological extremes lies the history of the site in the fifth, fourth and third millennia, and the filling in of the details of this history was a subsidiary but important aim.

Much had been done to accomplish these aims in the previous seasons. The main outstanding problem was to establish the nature of the earliest occupation on the site and to find to what extent the remarkable Pre-Pottery Neolithic culture was an indigenous development. On this subject, evidence was successfully obtained. In other areas, considerable additional light was thrown on to the history of the site in the Pottery Neolithic period, the Early Bronze Age and the earlier phases of the Middle Bronze Age.

The Pre-Pottery Neolithic Period and the earliest occupation on the site.

The general character of the Pre-Pottery Neolithic occupation, characterized by well-built rectangular houses with plastered floors, had been established in the earlier seasons of excavation. The final season's work established the sequence of the early stages of occupation, and this stage can now be designated Pre-Pottery Neolithic B. In the main, the results of the final season were a confirmation of those of previous seasons. Houses of the type well known in a long succession of levels in Areas E, D and F, were found in Trenches II and III, at the north and south extremities of the mound, in each case truncated by the revetment wall of the base of the Middle Bronze Age bank. Since this massive bank was probably some 37 metres wide, the actual built-up area of the Pre-Pottery Neolithic B town stretched at least this 37 metres beyond that of the Middle Bronze Age town at the north and south ends. The town wall of the period, found in Trench I, on the west side, must have lain further out at the north and south ends, and have been swept away in the construction of the Middle Bronze bank, which involved stripping the area outside to bed-rock.

The finds uncovered in the new areas emphasized the remarkably stereotyped character of the architecture of the period. The houses were as usual of a size extending beyond the area excavated, but the portions of the plan exposed were identical with those of houses found elsewhere. That in Trench III (pl. VII A) was an excellent example of the succession of rooms divided by screen walls pierced by two narrow side openings and a wide central one, a plan which seems to be the characteristic central feature of all the houses, and the walls (pl. VII B) are likewise built of elongated bricks with thumb-impressions and have the same form with round ends.

Perhaps the most interesting find concerning the Pre-Pottery Neolithic B period came from Square D II, opened east of the great Neolithic tower to clear it to its base on that side. In 1952, a large quantity of fragments of painted plaster had been found in the adjacent Square F I. Most of it

came from places disturbed by Byzantine pits, but some appeared to be Neolithic. In 1957–8, much more was found in Square D II, quite certainly from the highest Pre-Pottery Neolithic levels. Moreover, some of it was sufficiently intact to show that it had formed part of human figures. The figures were nearly life-sized. One (pl. XII A) survived as far as the waist, but there was no clear evidence as to whether they were originally complete figures or not. The shoulders and bust are fairly realistically modelled, but the head is completely stylized, a spade-shaped disk with no indication of features. The paint, in bands of red, brown and cream, which covers the plaster, seems to be decorative only. Though only one complete head and bust were found, there were a number of other heads, so it is clear that these were the remains of several figures.

This find obviously calls to mind the plaster figures found by Professor Garstang in 1935 towards the north end of the site. Three figures were found, likewise nearly life-size. Only one head could be recovered. It likewise was disk-like in profile, but not as stylized as the recent finds, for the features were moulded and the eyes inset with shells. The shell eyes recall those of the remarkable plastered skulls found in 1953, though they lack the central slit which gives the eyes of the latter the appearance of having pupils. When the relationship between the extremely realistic plastered skulls and Professor Garstang's plastered figures was originally considered, it seemed doubtful whether there was any connection. The stratigraphical position of the latter was not very certain, but it seemed more probable that they belonged to the Pottery Neolithic period; since the method of construction was so different and since they were complete figures whereas the plastered skulls certainly had no bodies attached, it seemed reasonable to accept the probable stratigraphic indication that the stylized figures were not directly derived from the naturalistic heads. The position is now different. There can be little doubt that the newly discovered figures represent a further development in stylization than Professor Garstang's figures, and that they are chronologically later. Professor Garstang's figures must also therefore fall within the Pre-Pottery Neolithic period. This makes it probable that they are lineal descendants of the representational art of the plastered skulls, great though the differences are, for there is very strong continuity of culture throughout the Pre-Pottery Neolithic B stage.

By the fifth season of excavation in 1956, it had become clear that this Neolithic town had been preceded by another, with a sharply differentiated culture. This stage may now be designated Pre-Pottery Neolithic A, for it is now clear that it represents the first full Neolithic stage on the site. Architecturally it is characterized by houses of round or curvilinear plan, in plan and in the bricks used completely different from those of the B stage. The flint industry was different, as were the stone utensils, and there were differences in burial methods, in well-defined graves instead of in fill or shallow pits. The two stages were separated by an absolute stratigraphic break.

The houses of this stage are described in the reports of the 1956 and 1957 seasons[1]. In the same articles are described the magnificent defences discovered on the west side of the *tell* in Trench I, consisting of a stone wall fronted by a rock-cut ditch and backed by a great tower thirty feet in diameter at the surviving summit.

One of the objectives in the 1957–8 season was to complete the excavation of the tower. This has now been cleared to bed-rock on the north, east and south sides (on the west it is built against the town wall), though the complete circuit of the base has not been exposed. The clearance on the east side necessitated opening a new square and excavating it from summit to base of the tell, here some 13·50 m. high. The successful execution of the difficult task of excavating this great depth in a short time, while also observing and recording the essentials of the complicated stratigraphy, is a great tribute to the skill of Mr. Peter Parr, who was in charge of the area.

The same periods and succession of houses characteristic of all periods from the Early Bronze Age to Pre-Pottery Neolithic A as had been found in the adjoining areas was traced, but owing to the necessity of excavating at speed they were not studied in detail. The reason why it was decided to clear the tower on the east side was that it was here that there must be the entrance to the passage in the heart of the tower down to which the flight of steps led. The entrance was duly uncovered, as is shown in pl. VIII B. The excavation here, however, and on the north and south sides of the tower, showed that the early stages in this portion of the structure were complicated.

It had already been established[2] that there were three structural phases in the town wall and tower. At the summit of the tower, its original face was masked by an added skin, 1 metre thick. Clearance in the final season showed that this skin was built from a level at about 5·75m. below the surviving top of the tower. Below that 2·50m. of the original face to its foundations was revealed. This was built against an original town wall, still surviving to a height of 3·90m. (pl. VIII A), with a face 3·50m. further back than that of the later wall; the curve of the tower flattened out at the junction with the wall, making the tower apsidal in plan at the base (fig. 2). At this stage the passage at the foot of the staircase opened at ground level with an entrance 1·70m. high, but the exterior surface at this point had been removed in the next stage. The purpose of the passage and staircase was apparently to provide for the manning of the top of the tower.

The next stage in the history of the area was the addition of some curious structures against the north, east and south sides of the tower, completely enveloping it, and built also against the town wall on the north side (the junction of tower and wall on the south side was not within the area excavated). They consisted of thin walls, thickly covered with mud-plaster, curved in plan, some surviving to a height of 3·12m. (pl. IX A). Portions of five of the

[1] *P.E.Q.* 1956 and 1957.

[2] See *P.E.Q.* 1956, pp. 71–2.

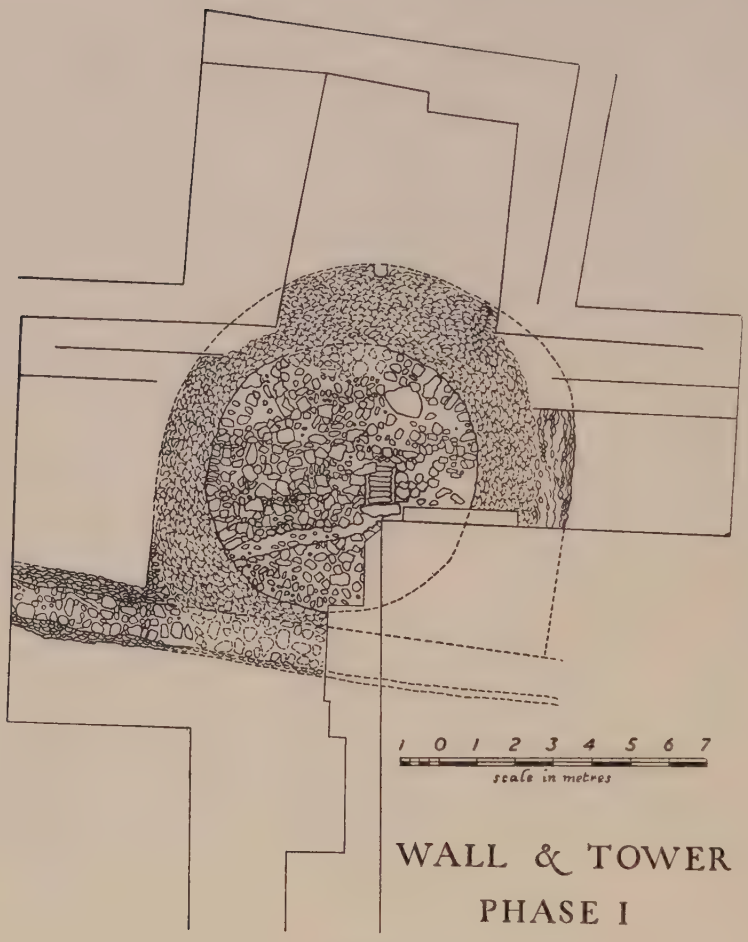


Fig. 2

Pre-Pottery Neolithic A wall and tower, Phase I

areas bounded by these walls were uncovered (fig. 3), but the dimensions of the areas were considerable, and in each case they extended beyond the area excavated. In plan and in the character of the walls, these enclosures were completely unlike the houses typical of Pre-Pottery Neolithic A. Though the walls all survived to a considerable height, in none of them was there any trace of a door. There was however one opening, and this gives a clue to the purpose of the enclosures. It pierced the wall between the two enclosures adjoining the north side of the tower, and measured 0·45m. by more than 0·25m. (pl. X A; the north side of the aperture lay beyond the excavated area). Through it ran a succession of layers of water-laid silt

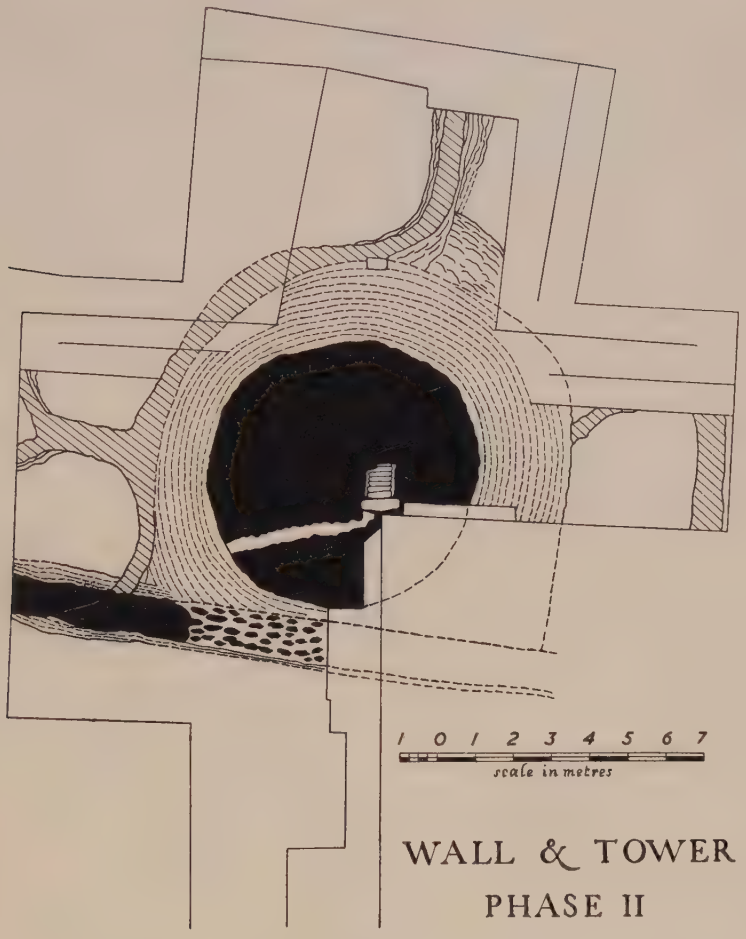


Fig. 3
Pre-Pottery Neolithic A wall and tower, Phase II

and there can be no doubt that it was a water-channel. This is confirmation of the visual impression that the enclosures are water-tanks.

The provision of such large and elaborately constructed tanks is surprising. At Jericho there can never have been the need of water conservation which exists in the hill-country, for the spring is ample and perennial; in fact there is no evidence of water conservation at any other period. As a hypothesis, it may be suggested that the tanks were connected with irrigation. It has already been suggested[1] that a system of irrigation would have been necessary to carry the water of the spring sufficiently far afield to serve an area adequate

[1] *Antiquity* 120, p. 191.

for the sustenance of a population of the size indicated by the area covered by the settlement; a corollary to this would be the growth of communal organization which irrigation requires, and the elaborate and grandiose defences show that such an organization existed; it is claimed that the impetus stimulating this organization was irrigation. But water from the spring could only be led into the fields to the east and south-east of the town, and before concrete existed to line the channels, it may not have been possible to lead it very far. Water in tanks against the tower, with a potential head of water when full at least 7·90m. above that of the spring (this is an estimate only, for the actual original egress of the spring is unknown, but it cannot have been much higher) could have watered the area to the west and south of the town, and thus have rendered a much greater area cultivable. The tanks must have been filled either by rain-water collected by drainage channels from house-roofs, or manually. Such an explanation, though admittedly hypothetical and incapable of proof, does at least provide a reasonable explanation for the tanks.[1]

A curious effect of the construction of the tanks was that the entrance to the passage leading to the staircase in the tower was greatly obstructed. The wall of the enclosure to the east of the tower (fig. 3) was built right up against the tower, apparently allowing entrance to the passage only by something in the nature of a trap-door (pl. VIII B), to which access must have been gained by walking along the top of the wall, rather thicker than most, that runs east. The thick wall is, however, so arranged as to provide for this " trap-door " entrance, so the passage and staircase were presumably still in use. During the use of the tank to the east of the tower, the level within it was apparently considerably scooped out, with the result that nothing survives of the original surface leading up to the passage.

The next structural stage was the construction of the skin enclosing the original face of the tower. This is based on a level that seals the tanks. The filling of the tanks suggests that the effect of the water was to cause the gradual collapse of the surrounding mud-brick and plaster and to fill up the tanks. But before the structural skin was built, with its contemporary floor of mud plaster sealing the underlying debris, a number of burials were cut into the fill of the tanks. Moreover, it must have been at this period that the dozen burials were inserted into the passage into the tower. As has already been described[2], these were placed in the passage after silt had accumulated to within 0·75m. of its roof. Examination of the entrance to the passage showed that they had been inserted through a hole cut in the tank wall built against the tower. The " trap-door " entrance must therefore have been

[1] Subsequent study of the evidence suggests, however, that the enclosure to the south of the tower was used for grain, and not water, storage.

[2] *P.E.Q.* 1956, p. 76.

blocked, but the fill of the tanks had not yet been sealed by the surface contemporary with the skin-wall belonging to the second structural phase.

The skin-wall cuts into the top of the original town wall. The final town wall is however an integral part of a wall-system that is built against the skin-wall. Between the two must come an intermediate stage in the town wall. This is represented with little doubt by the lower courses of the final town wall, on a slightly advanced line and in a rougher technique, as is clearly visible in *P.E.Q.* 1955, pl. XIII.2. With this stage it is reasonably certain that the rock-cut ditch was in origin associated. Its line is that of the later rather than the original wall, 3·75m. in front of the original wall, but separated from the foot of the later line only by a berm of 0·75m. Between the original wall and the later line is a filling of stone chippings, clearly derived from the cutting of the ditch. This is retained on the inner side of the original wall, which was probably strengthened at the same time by a substantial buttress; since by the time the final town wall was built, all this was completely buried, the excavation of the rock-cut ditch must belong to this phase.

At the stage at which the skin-wall was built, the area surrounding the tower was covered with a floor of mud-plaster continuous with that on the face of the skin-wall, and the tower therefore stood isolated in an open space. Subsequently, however, structures similar to the tanks built against the original tower were re-established. Like the original ones, the walls of these structures are thin, heavily plastered, have no doors, and enclose areas quite unlike the characteristic houses; they are not, however, tanks, since one has a narrow opening to within 0·35m. of the floor. They are probably to be interpreted as intended for grain storage, like one of the original enclosures. The first stage of these structures is an integral part of the building of the final stage of the town wall, built upon a surviving 2m. of the second town wall. It is difficult to decide whether the ditch continued in use at this stage, as the tip-lines of the silt which eventually filled it show no interruption, but the probability is that it did, and that its fill to a large degree only belongs to a stage when the defences finally went out of use; it is possible that when all the criteria for analysing the successive periods have been established there will be more certainty on this point.

There are thus three main structural phases associated with the defences in Trench I—Squares F I—D I—D II. Up to the final structural phase, there are none of the houses characteristic of Pre-Pottery Neolithic A in F I—D I. Subsequently, however, the last of the strange enclosures became filled with debris, and ordinary houses were built on top. Of these there is a long succession, truncated on the west by the erosion marking the termination of the Pre-Pottery Neolithic A stage. The full succession and correlation of the different areas has not yet been worked out. But in the succession of houses in Square F I, to the north of the tower, there is an important stage. In the third of the *houses* (as distinct from the preceding phases), out of the six house phases that survive in this area, there was a

heavy layer of charcoal derived from the destruction of the building. This provided material for a Carbon–14 dating of *c.* 6,800 B.C.[1]. The late stage in the history of the defences of the Pre-Pottery Neolithic A town of Jericho to which this date applies, a stage at which levels had been built up almost to the surviving 8·50m. of the height of the tower, carries back the origins of the defences to something in the neighbourhood of 7,000 B.C., that is to say, to a time some four thousand years earlier than the Pyramids of Egypt.

The preceding paragraphs on the history of the defences of Pre-Pottery Neolithic A Jericho deal only with the evidence in Trench I, and the adjacent areas, on the west side of the tell. Amongst the objectives of the final season's excavations was to establish the extent of the town of the period and to trace the defences in other areas. For this purpose, Trench II at the north end and Trench III at the south end of the site had been laid out, and in both the lowest levels were reached in 1957–8. In both the line of the town wall of the Pre-Pottery Neolithic A phase was established. In neither trench was it so well preserved as in Trench I; in Trench III it was 1·60m. wide, and survived to a height of 2·05m., but at the north end, in Trench II, only the lowest course survived. But in each case its line was certain, and the extension of the town of the period, with its characteristic round houses, up to this line was proved. The town of the period must have covered an area of something like ten acres.

The remarkable conclusion to be deduced from this evidence is therefore that by about 7,000 B.C. the settlement of the Pre-Pottery Neolithic A people at Jericho had reached the status of a town, a title to be claimed on the grounds of the size of the settlement, its defences, and the community organization which alone could have produced such defences.

Behind a settlement of a size which by Neolithic standards is unparalleled and behind the evolved organization proclaimed by the elaborate defensive system must lie a lengthy development. The final problem concerning the early history of the site that clearly demanded an answer in the 1957–8 expedition was whether the culture that this settlement represented was an indigenous development or was brought, in an already advanced stage, from elsewhere by immigrants. The unambiguous answer provided by the evidence from the excavations was that it was an indigenous development.

As might be expected, the expansion of the settlement was proved to precede the building of the defences. A portion of a characteristic round house was found beneath the floor of the passage in the tower, and in the other trenches it seemed probable that there were houses earlier than the defences. In the areas in which the defences were investigated, these houses

[1] G.L.40 of the Davy-Faraday Laboratory, working in conjunction with the Environmental Department of the Institute of Archaeology. B.P.8730 in 1957 = 6770 B.C. ± 210, and B.P.8810 = 6850 B.C. ± 210.

represented the earliest occupation on the site; elsewhere, however, were found two stages that preceded them.

In the first place, in Square M I (fig. 1), the usual long sequence of the round houses of Pre-Pottery Neolithic A were found beneath the rectangular houses of Pre-Pottery Neolithic B. In pl. X B, the level of the lowest of the A houses is represented by the narrow ledge on the left-hand side of the photograph. But this level is not near that of bed-rock, as in the other areas excavated, but separated from it by a deposit of 4 metres. In this 4 metres, there are no solid structures, but there was quite clearly occupation. A study of the stratification shows that this depth of deposit is made up of an almost innumerable succession of surfaces, associated not with solid walls indicating substantial structures, but with limits, though almost untraceable in plan, shown in section as low humps. These humps represent the footings of slight structures, of huts or shelters walled with clay (in the form of clay " balls ", the most rudimentary form of bricks), branches, earth and probably skins. Such shelters would be appropriate to a nomadic way of life, easily built, easily abandoned. But here the depth of deposit is proof of a population firmly attached to one spot, perhaps at first in regular seasonal visits, but surely in the course of the considerable time, indicated by such an accumulation derived from such slight structures, eventually becoming completely sedentary. The proof of this is the appearance, at the summit of the accumulation, of the solid houses, which in their curvilinear shape suggest a derivation from a simple hut type.

The four metres of deposit is thus characteristic of a transition from a nomadic to a settled way of life. During the period (as will be seen, probably centuries) represented by its accumulation, an economy based on agriculture must have been developed, on the one hand making it possible for the group to live continuously on one spot, and on the other tying it there by the need of tending the fields and awaiting the harvests. It seems therefore appropriate to call it the Proto-Neolithic stage. During this stage, the nucleus of the tell grew up. Its area was probably not very great. Only in Square M I has this deposit any significant dimensions; 25m. to the south, in the area of the tower, it is not found, nor is it present 65m. to the north-east in Square E I. It was only after solid houses succeeded the slight shelters that the area of the settlement began to expand to the dimensions subsequently enclosed by the town wall.

For the interpretation of the history of Jericho, the most significant point is that the flint and bone industries found in these Proto-Neolithic levels are the ancestors of those of the inhabitants of the Pre-Pottery Neolithic A town. Miss Diana Kirkbride, who was in charge of the excavation of Square M I, has made a preliminary study of the flints, which is appended to this report. In it, she shows clearly the derivation of the Pre-Pottery Neolithic A flint industry from that of the Proto-Neolithic stage. The roots of the town stage can therefore be traced back into an incipient village stage.

The story can be carried back yet one stage further. In Squares E I–II–V towards the north-east end of the tell (fig. 1), was found evidence of a Mesolithic stage. On virgin levels here there was a most curious structure. The original covering of the limestone bed-rock was a layer of some 30 cms. of clay. Over most of the area exposed, this had been stripped off. But a rectangle, 3m. wide and more than 6·50m. long (its limits to the north-west extending beyond the excavated area), has been left intact, bounded by a massive wall of stones and wooden posts (pl. XI A). The plan and dimensions of this structure are quite unlike those of any houses discovered. Two features may suggest an interpretation of its purpose. Set in its wall were two stones with cylindrical borings completely through their depth of *c.* 0·60m., and beside them were the broken fragments of a third (pl. XI B); they look like flag-pole sockets, and it may not be too fanciful to suggest that they held the primitive equivalent, totem-poles. Secondly, the stratification showed that the greasy surface of the clay was kept scrupulously clean throughout the existence of the structure, though debris was allowed to accumulate on the adjacent rock. On the grounds of the plan and of these two features, it may be suggested that the structure had a religious character, and was a sanctuary or a shrine.

Such an interpretation is hypothetical. But the evidence of the associated culture and of its date is factual. In the associated layers were flints and bone implements belonging to the Lower Natufian, the first stage of the Palestinian Mesolithic. Most diagnostic are a beautiful little lunate and bone harpoon-head (pl. XV B).

These finds show that the earliest visitors to the spring of Jericho to leave clear evidence of their presence were the Natufian hunters of the Mesolithic or final food-gathering stage. It may well be that they set up by the spring a sanctuary in recognition of its life-giving qualities; to this day in the Orient, where water is so important, the sacred nature of springs and fountains is thus perpetuated. The date at which the presence of the Natufians is attested is given by a Carbon–14 dating. The structure was eventually burnt down, and charcoal from the debris gives a dating of *c.* 7,800 B.C.[1]

Miss Kirkbride's analysis shows that the flint industry of this Mesolithic level is ancestral to that of the Proto-Neolithic phases, just as the latter is ancestral to the industry of the Pre-Pottery Neolithic A town. The sequence at Jericho is therefore complete. Somewhere about 8,000 B.C., Mesolithic hunters started to visit the spring of Jericho. Their descendants settled on the site and their occupation became increasingly permanent, until by *c.* 7,000 B.C. it had developed into a town with massive defences, covering an area of some ten acres.

[1] G.L. 69 of the Davy-Faraday Laboratory and the Institute of Archaeology, giving a date of 9850 ± 240 B.P., in 1958 = 7892 B.C.

The flint and bone industries of these first visitors to Jericho are linked to those of the inhabitants of the Mount Carmel caves[1]. Even while dwelling in the caves of Mount Carmel, it is possible that the Natufians were experimenting in agriculture, for their sickles with bone hafts and flint blades were numerous and clearly the object of much care. The natural resources of Jericho, with its copious spring watering a fertile soil, may have stimulated such pioneer experiments to such an extent that a successful agriculture became capable of supporting a fully sedentary population of ever-increasing size.

But when all this is accepted, it still remains surprising that the first Neolithic Jericho developed on the scale established by the excavations, a scale far beyond that of the earliest villages known elsewhere, and at an earlier date. The explanation of this may lie in an inspired use of the potentialities of the site. In its natural state, the waters of the spring can only have stimulated fertility in a comparatively limited area. Nineteenth-century photographs of the neighbourhood, when there was only a miserable village on the site of the modern town, show an arid scrub. The modern luxuriant oasis is the resultant of irrigation. The fully developed Pre-Pottery Neolithic A town of ten acres may have housed a population in excess of two thousand. Such a population could only be supported by an assured food supply of considerable size, and it is improbable that such a supply would have been obtainable from the area watered by the spring in its natural state. It may thus be suggested that a system of irrigation had been developed. This implies a considerable degree of community organization. The evolution of such an organization from economic needs would be followed by its use in such undertakings as the construction of the defences. Proof of an irrigation system will never be found, for it has been destroyed by modern irrigation; as a possible support for the theory that irrigation was practised is the interpretation proposed above (pp. 93ff.) for the structures against the towers; as a proof of the existence of a community organization, the defences of 7,000 B.C. are irrefutable evidence.

One further point remains to be considered. Miss Kirkbride's survey shows that the flint industry of Proto-Neolithic and Pre-Pottery Neolithic A Jericho is derived from the Lower Natufian, and Dr. Waechter's preliminary detailed examination of the material confirms this diagnosis. The harpoon-head is particularly diagnostic, since it occurs at Mount Carmel only in the Lower Natufian stage. But at Mount Carmel and elsewhere this stage is succeeded by the Middle and Upper Natufian, poorer in quality, but distinct in character. It would thus seem that elsewhere the cousins of the first settlers at Jericho continued a nomadic life, dependent on food gathering. This would seem to be entirely reasonable. It has been claimed that at El-Khiam the Upper Natufian stage develops into the classic Neolithic of Palestine,

[1] D. A. E. Garrod and D. M. A. Bate, *The Stone Age of Mount Carmel*, and D. A. E. Garrod, " The Natufian Culture " in *Proc. of the British Academy*, XLIII.

the Tahunian. Whether from the ultimate Natufians or whether from other groups outside Palestine, another sedentary way of life, capable of producing another settlement of urban type, was therefore developed and men of this different culture ultimately seized possession of the valuable site of Jericho.

The Pottery Neolithic and Chalcolithic periods.

It will be remembered that at the end of the Pre-Pottery Neolithic B period there was a complete break, marked stratigraphically by the erosion of the uppermost levels on the edge of the mound. On the eroded surface of the Pre-Pottery Neolithic B town settled the first of the newcomers who introduced the use of pottery. It will also be remembered that most of the evidence of this stage comes from a series of pits cutting deeply into the preceding levels, and subsequently filled with rubble. The interpretation which was suggested[1] of this stage was that when the newcomers, the Pottery Neolithic A people, arrived, their way of life was still nomadic, and that they camped on the ruins of the earlier town; to this phase seemed to belong a series of layers in which there was no evidence of structures but only a series of hearths and charcoal spreads. This stage seemed to be followed by that in which the pits were dug, at a time when there was already much pottery lying about on the site, and it was suggested that the purpose of the pits was to obtain the material for making the mud-bricks of the structures that appear in the succeeding phase.

This interpretation requires revision in the light of new evidence, obtained largely in Trench II at the north end of the tell, but confirmed in other areas. In this trench, there was the usual complicated series of pits cut into the eroded slope of the Pre-Pottery Neolithic B levels. It had hitherto been taken that the rubbly filling of the pits represented simply their filling in after material had been extracted. But a more detailed examination of their sections in Trench II showed that within them there was a series of surfaces. These surfaces seemed to be actual floors, associated with rough walls of clay and flints round the edges of the pits. Once this feature had been observed in section, some of the pits were selected for detailed excavation, a highly delicate process involving the tracing of slight earth floors which may be quite plain in section but are difficult to follow as a surface; this work was entrusted to Dr. Neil Richardson, Director of the American School of Oriental Research in Jerusalem in 1957–8, who had been a member of the expedition in 1953 and who found himself free to offer to work for us for a short period towards the end of the dig. This detailed clearance proved the existence of the floors and structures in the pits beyond any doubt; associated with one of them was an excellent clay oven with a firing chamber beneath a clay floor. From the successive levels in these pits a considerable amount of pottery was recovered. This has not yet been worked over in detail, but a preliminary examination

[1] *P.E.Q.* 1954, pp. 10–11.

suggests that the first stages of occupation in the pits belongs to the Pottery Neolithic A stage, and that the upper levels may belong to the Pottery Neolithic B stage.

We are thus forced to the rather surprising conclusion that the newcomers by choice dug a series of pits, mainly concave sided and of varying depths, into the ruins of the preceding town. There is little doubt that, though the slight evidence that the pits were primarily intended for occupation was not observed in those more summarily excavated in earlier seasons, the great majority of the pits were actually dwelling pits. The pits are found from end to end of the mound, which was thus occupied by a semi-troglodyte community. This conclusion, however, becomes less surprising in view of the accumulating evidence that in the late Neolithic-Chalcolithic stage, at a time which cannot yet be defined more closely than the centuries on either side of 4,000 B.C., there were a number of communities in Palestine that by choice lived underground. It was long ago recorded by Mr. Fitzgerald that the earliest occupation at Beth-shan was in pits[1], and an examination of the description suggests that they were of a similar nature. The most surprising examples come from the neighbourhood of Beersheba, where on a number of sites there were troglodyte communities of which the dwellings show a long succession of periods[2]. The groups living in these subterranean dwellings at Beersheba, Beth-shan and Jericho do not share the same culture. It remains for further research to show what compelling common factor it was, climatic, economic or racial, which resulted in their living in this strange way.

The Early Bronze Age.

Levels of the Early Bronze Age have now been excavated in all the areas examined on the tell. In the area adjacent to Trench I, on the west side of the tell, little of them survives inside the line of the town wall, and therefore in the new Square D II no new information was obtained. In all the other areas, a long succession of levels of the period was excavated. The full history will not however emerge until the pottery has been worked over in detail.

In Trenches II and III, the area cleared was outside the main line of the town walls, and the walls themselves were not completely cut through. Enough was done to show that their history was complicated, with a series of repairs and rebuildings similar to that found in Trench I, but only a complete cut through the walls can trace all the stages, so it is uncertain if the number of stages at the north and south ends is comparable with the seventeen found on the west side. The history at the north end seems to have been particularly complicated. In the later stages, the line was moved forward 6·50m., and subsequently withdrawn to the earlier line. With the later walls here were associated ditches, as was the case in Trench I. There

[1] *P.E.Q.* 1934, pp. 124–5.

[2] *Israel Exploration Journal* V; *Archaeology* 12.

is a strong probability that at least in the earlier stages there was a gate immediately to the west of the area excavated. A rectangular tower projects from the town wall; curving out in front of it was a wall which came to a definite end within the area of the trench, and between the tower and the curved wall was a well-defined surface. The junction of the curved wall with the town wall lay outside the excavated area to the west (and would in fact almost certainly have been cut by the 1930 trench which immediately adjoins Trench II on that side), but it seems possible that it was part of the defences of a gateway, through which the surface would lead, and was in the nature of the *clavicula* associated with Roman military gateways.

Areas within the walls were examined in Squares M I, E III–IV and H II–III–VI. In M I, the area was limited to a series of structures built up against the back of the town wall; houses against the wall seem to have been a constant feature at all periods. The areas of Squares E III–IV and H II–III–VI both lie on the eastern side of the mound. In both, it was clear that the Early Bronze Age Houses were built in a series of terraces on the steep slope left by the final Neolithic stage. In Area H, for example, a depth of some 5m. of Early Bronze Age deposits was excavated in Square H II, but the highest Early Bronze Age level had only just been touched in Square H III at the end of the 1957–8 excavations, there being a drop of 5·50m. in 16m. The walls of the period in Square H II are extremely substantially built, for deep foundations were necessitated by the need to retain the terrace fill. A chance find shows that the town wall of the Early Bronze Age ran immediately east of the area excavated, being destroyed at that point by the modern road. The find was made a little to the south of Squares H III–VI, where a water post of the Jordanian Army has been cut into the side of the tell. This cut uncovered a wall typically in the style of the Early Bronze Age town walls, with their hollow cavities[1], and the line could be sufficiently established to show that it ran obliquely to the north-east, to be cut by the modern road just south of Square H VI.

The largest area of Early Bronze Age houses was cleared in Squares E III–IV. Within the area, there was an appreciable slope down to the east at all stages, and a substantial terrace wall ran along its east end, with a steep drop beyond it. Altogether seventeen main occupation phases were traced here, and the lowest levels have not yet been fully excavated. The earliest are associated with successive stages of a massive building with apsidal-ended rooms, which may be Chalcolithic. A preliminary examination of the pottery suggests that thereafter there are seven stages belonging to EB I–II, and four belonging to EB III. The pottery sequence will be very useful when fully worked out. At the western end, the Early Bronze Age levels rest directly on the Pre-Pottery Neolithic B levels and the Pottery Neolithic pits that cut into them.

[1] *Digging Up Jericho*, pp. 174–5.

Intermediate Early Bronze—Middle Bronze Period.

On the tell, no levels of this period were excavated in 1957–8. It is in fact noticeable that there is apparently no occupation of this period on the eastern slopes of the tell, though it is found on the northern, western and southern slopes. This is certainly the case in Squares H II–III–VI, where the Middle Bronze Age levels rest directly on the denuded slope of those of the Early Bronze Age. In Squares E III–IV, over most of the area the lines of the highest Early Bronze Age walls had been already excavated by one of the earlier expeditions, but there was no EB–MB pottery in the re-filled excavations, and in the one intact area in the S.W. corner, the debris of collapse of the latest Early Bronze Age walls went right up to the present surface.

The additional evidence about the EB–MB period came therefore from the tombs, and a further 44 of this period were excavated. Almost all were of the type to which the name Outsize has been given[1], and their excavation, carried out under the direction of Lady Wheeler, involved therefore an enormous labour. The extreme example was a shaft 7m. deep in dimensions 3·70m. × 3·25m., leading to a chamber 3·75m. × 4·70m. Another tomb had a shaft 5·40m. deep, 3·40m. × 3·25m. in dimensions, with chamber 5·90m. × 4m. The shafts were all rectangular in plan, which is another characteristic that in addition to the dimensions distinguishes them from the Pottery type tombs found in earlier years[2]. In their original EB–MB use (some were re-used in the Middle Bronze Age), these enormous tombs were all dug to accommodate a single burial, usually but not invariably disarticulated. With the burials were placed numerous pottery vessels, in some of them the same " tooth-brush mug " type as found in the Pottery type tombs[3], but in others, and especially in the largest of the series, types never found in those tombs, especially large, wide-bellied, ledge-handled jars and jars with spouts. In addition, there were a considerable number of copper or bronze fittings, but no weapons. It will be remembered that the most probable interpretation of the difference in burial practices between the Dagger type and Pottery type tombs is that they represent the burials of different tribal groups[4]. It is not quite so easy to decide on the interpretation of this group, for there are some obvious points of contact with the Pottery type tombs, and the plan of the shafts is similar to that of the Square-shaft type[5]. The new features, and particularly the new pottery forms, do seem to suggest another group, perhaps later in date than the others, and combining to some extent with them.

The most interesting burial in EB–MB tombs was in G.88, of the Pottery type group. In this there was an intact adult burial, of which the cranium showed evidence of four trephining operations (pl. XII B). In one of these

[1] *Digging Up Jericho*, p. 203; see also *P.E.Q.* 1956, p. 78.
[2] *P.E.Q.* 1953, pp. 92–3.
[3] *P.E.Q.* 1956, p. 77.
[4] *P.E.Q.* 1953, p. 93; *ibid.* 1956, p. 77; *Digging Up Jericho*, p. 195.
[5] *P.E.Q.* 1955, p. 117.

the bone had healed almost completely over. The three later operations may have been carried out at the same time. They too show some signs of healing, so the victim did not die immediately even after this triple operation[1]. The skill of the operation is incredible, when it is remembered that it was performed without any anaesthetic, other perhaps than that of making the patient drunk, and with copper or flint chisels. It may be surmised that the patient was a lunatic, and the operations represent an endeavour to let the devil out.

Middle Bronze Age.

As has already been pointed out[2], the only area on the tell in which Middle Bronze Age levels survive is on the east side above the spring. There, in Squares H II–III–VI, the excavation of the sequence was completed in 1957–8. Like the Early Bronze Age levels, they descend the slopes of the mound in a series of terraces. The upper levels run right out to the surviving edge of the tell, where it is cut by the modern road. An important result of the final season's excavations was to show that the earlier line of the town wall lies just on the present edge of the tell in this area. A cut was made right through to the road, and two successive lines of town wall were identified. They are of mud brick, in type resembling the Early Bronze Age walls. It has been suggested[3] that on this side of the town the final Middle Bronze Age defences, continuing the line of the plastered bank with massive stone revetment at its foot found on the north, west and south sides, here swings out from the foot of the tell as a free-standing bank. It may be presumed that the upper levels, truncated by the modern road, ran out to this bank, while the lower ones can be seen to be associated with the defences in the form of a simple wall. A hypothetical reconstruction of the line of the outer revetment of the bank in a reasonable curve from the point to which it was traced at the north-east and south-east by the Austro-German excavations would place it about 32m. in advance of the newly-discovered earlier wall; how far in advance the actual crest of the defences would have been is quite uncerain, as there is no means of estimating the height and spread of the bank.

It is very probable that the town gate of the period lies immediately to the south of Squares H III–VI. Along the south side of the excavated area was what was apparently the back-side of a massive tower, several times rebuilt, and ultimately destroyed by fire. Unfortunately, the area to the south had already been mutilated by a deep sounding, and no plan of the structures found has survived, so even if time had permitted an extension of the area of excavation here, it is unlikely that the plan of the gate could have been recovered. It is of course highly probable that a gate existed here, for

[1] A report on the cranium by D. R. Brothwell, appears in *Man* LIX. The cranium has been deposited in the Wellcome Historical Medical Museum, and a cast of it, very kindly made by the British Museum (Natural History) is in the Amman Museum.

[2] *P.E.Q.* 1954, p. 17.

[3] *P.E.Q.* 1956, p. 81.

whether or not the source of the spring lay at the time within the area of the walls, the cultivated fields lay on this side, requiring convenient access.

Though Area P in which the tombs were excavated in 1957–8 lies 1,100m. to the north of the tell, Middle Bronze Age tombs were still found, making use of EB–MB tombs of the Outsize type. Three tombs so used were found. All contained multiple burials, but did not show evidence of a use over a long period, with the consequent mounding up of the earlier deposits round the edge. The group of tombs in Areas G–H in which multiple simultaneous burials were made, which were not subsequently disturbed or re-used, can be dated late in the Middle Bronze Age, and perhaps represent burials as a result of a pestilence only just before the final destruction of Middle Bronze Age Jericho. These newly-found tombs are earlier, and two of them may perhaps represent deaths from earlier pestilences, purposely placed in tombs far away from the town, and purposely not re-used.

The third tomb, P 19, however, seems to have had a more complicated and more exciting history. It contained seven burials, a woman of under thirty years of age, two men of about twenty-six and twenty-four years, two adolescents and two children. They all lie side by side, but the woman seems to have been buried at least a year or so first, for when the others were put in, some of the bones were displaced, one tibia being kicked right away into the doorway, and several vertebrae being out of position. Between her skeleton and that of the rest there is another and more striking difference. All the others met a violent death, being hit on the back of the head with a blunt instrument; one also lacked his right hand[1]. It would obviously be tempting to interpret this as the killing of retainers to accompany a great lady in the after-life, but it would be strange if this took place only some years after her death. A judicial execution, after a lengthy legal process, of someone responsible for her death, and of his family, might be another explanation. In this tomb was the usual provision for the dead, and the fact that the principal burial was that of a wealthy person is shown by the presence of a stool, which has only elsewhere been found where there has been other evidence of the burial of an important person. The carving of the furniture was very good, confirming the evidence already obtained that the later furniture is simpler and more stylized than the earlier. The tomb group has been acquired by the British Museum, and will in due course be reconstructed there.

Late Bronze Age.

Since the only surviving fragment of a house of the Late Bronze Age lay on the extreme north edge of Square H III[2], it was obviously desirable to open up a further area to the north in the hope of securing more evidence on this period. Accordingly, Squares H IV and V were opened to the north

[1] See Appendix I for report by Dr. J. C. Trevor.

[2] *P.E.Q.* 1954, p. 17.

of Squares H II and III. They were unfortunately unproductive. At the east end, it was found that the area had already been excavated by the previous expedition to below the relevant level. Further west, the presence of a small stone built house of early Arab date gave hopes of less disturbance. Beneath its foundations there were intact Iron Age levels of about the seventh century B.C. But it was found that the Iron Age filling went right down with deep gullies cutting into the Middle Bronze Age levels. Evidence was thus provided of the eroded state of the tell at the time when the Iron Age settlement was established, but nothing further of Jericho of the time of the attack of the Israelites under Joshua emerged.

Conclusion.

The main campaign at Jericho has therefore ended, and it can be claimed that the major objectives have been achieved. There are of course some loose ends, but this would undoubtedly be the case at whatever stage work was suspended. It is planned that some small-scale excavations shall be continued with the object of investigating some of these points, and one short dig was in fact carried out by Mr. Peter Parr in the spring of 1959. These will be continued as opportunity permits. But the main resources of the expedition, financial and otherwise, must now be concentrated on publication. This will be in three volumes, the first two on the tombs, the third on the tell. The first volume has already appeared. Thereafter perhaps work on Jericho can be suspended. The major expeditions so far have been at intervals of about twenty-five years. Perhaps in twenty-five years there will be a fourth, with all the additional resources, improved techniques and accumulated knowledge that should have developed in the interval.

Jericho from the West

A. A building of Pre-Pottery Neolithic B at Jericho, Trench III

B. A wall of Pre-Pottery Neolithic B

A. Pre-Pottery Neolithic A tower at Jericho; on right, original town wall

B. Pre-Pottery Neolithic tower; at base, entrance to passage. The man at the top is at the head of the stairs

A. Tank-like enclosures built against tower and original town wall

B. Second stage of Pre-Pottery Neolithic A defences at Jericho, with ditch and base of wall; above the second-stage wall, on which the man stands, is the third-stage wall

A. Water-channel in wall bounding tank-like enclosure

B. Jericho, Square M I. In centre, round house of Pre-Pottery Neolithic A; the ledge on left represents the lowest level of round houses. the trench cutting this level represents the depth of the Proto-Neolithic accumulation

A. The Mesolithic structure in Square E I at Jericho

B. The bored stone sockets in the Mesolithic structure

A. Plaster head and bust of the Pre-Pottery Neolithic B at Jericho

B. Jericho tomb G 88 with trephined skull

Appendix I

PRELIMINARY NOTES ON SKELETONS FROM TOMB P 19 AT JERICHO

The human remains found in tomb P 19 consist of seven almost complete skeletons, three belonging to adults and four to juveniles. All but one of their skulls were in fragments at the time of discovery. Owing to the pronounced sexual dimorphism encountered among skeletons of the Bronze Age at Jericho, determination of the probable sex of the owners was far easier than had been expected, even in the case of immature subjects.

Two of the adults (Skeletons B and F) were males aged about 26 and 24 years respectively. Skeleton B belonged to a man of normal muscular development (by modern European standards), who was, when alive, some 173cm. or 68in. in height. Skeleton F is that of a particularly robust subject whose stature was 176cm. or 69in.

The central figure of the group, Skeleton E, was a woman, some 28 years of age, powerfully built for one of her sex and 159cm. or 62½in. tall. Skeleton F, which lay immediately to her left, was evidently deposited in the tomb after her own body had been laid to rest, since her left upper arm and forearm were beneath his right upper arm and ribs.

Of the non-adults, Skeleton A was very probably that of a girl aged about 15; Skeleton C—from the large size of the teeth of the permanent dentition that had erupted—almost certainly that of a boy, whose age must have been about 11; Skeleton D probably that of a 13-year-old girl; and Skeleton G again almost certainly that of a girl some 17 years of age.

Not until further study under proper laboratory conditions has been carried out on these bones, and particularly until the juvenile skulls (many of which have suffered considerable damage by falls of stone from the roof of the tomb) have been restored, can the question whether they were related to one another or to any of the three adults, and if so how closely, be discussed with any profit. Likewise the further problem of their physical type must await detailed investigation.

Before the skeletons were " lifted " from the tomb, it was thought desirable to try and ascertain whether any of the persons to whom they had belonged had died by violence, for example by strangling, which is often indicated by the fracture of the hyoid (a small bone, shaped like the letter *u*, situated at the base of the tongue) in a certain manner. No intact hyoid was in fact found, but the fragile nature of the bone makes it particularly susceptible to breakage, perhaps by the weight of the skull alone, after decomposition occurs, the more so in remains of great antiquity. The hyoid, therefore, gave no positive indication of how these ancient Jerichoans had met their end.

The delicate task of " lifting " was accomplished with the help of Drs. Gottfried Kurth and Günther Apel of Göttingen University, and in the course of this a circumstance was observed which aroused our suspicions. Not only had Skeleton B, an adult male, been deprived of his right hand, but, apart from the only adult female, Skeleton E, it appeared that all the occupants of the tomb had been despatched by one or more powerful blows over the head, made with a blunt instrument.

A closer scrutiny by daylight in the field laboratory[1], after the shattered vaults of the skulls had been partially restored, was made by the writer and Dr. Apel, who is a member of the Department of Forensic Medicine of Göttingen University. This confirmed the first impression of a violent death and ruled out the possibility that the fractures of such strong bones as the occipitals of the adult males had occurred *post mortem*. The reasons for such a human tragedy, must remain conjectural, but it is significant that the only person of the seven who seems to have died a natural death was the young woman, not yet thirty, represented by Skeleton E.

J. C. Trevor,
Director, Duckworth Laboratory of Physical Anthropology, University of Cambridge.

Jericho.
29*th December*, 1957.

[1] Illumination in the tomb was provided by paraffin pressure-lamps, the heat from which certainly had a deleterious effect on the bones.

Appendix II

JERICHO ACCOUNTS

Expenditure

	1952	1953	1954	1955	1956	1957	1957–8	Total
Equipment	£	£	£	£	£	£	£	£
Camp	195	33	27	47	23	22	115	462
Photographic	6	8	13	2	17	1	12	59
Repair of finds	3	15	9	3	2	—	7	39
Digging	84	28	43	31	52	—	62	300
Expendable Materials								
Photographic	55	71	71	99	115	7	97	515
Repair of finds	8	26	21	18	10	—	9	92
Digging	62	47	70	74	66	9	103	431
Stationery	94	48	91	83	125	5	146	592
Medical	40	29	19	15	20	3	29	155
Transport, Postage and Bank								
Transport to and from Jordan	387	397	431	422	486	41	702	2,866
Postage, etc.	17	17	18	21	19	5	10	107
Bank charges and loss on exchange	12	6	11	6	19	9	6	69
Car and transport in Jordan	133	148	129	139	293	70	136	1,048
Rent and Repairs to House	140	92	119	93	172	117	203	936
Camp Expenses								
Food	616	534	512	526	545	128	746	3,607
Canteen	28	10	6	—	27	—	—	71
Household	61	49	71	77	63	25	58	404
Fuel	27	63	42	49	72	—	166	419
Camp wages	201	198	275	253	215	67	409	1,618
Expenses of Personnel								
Travel	585	552	829	763	848	396	948	4,921
Grants	43	56	44	89	282	11	202	727
Labour	639	855	1,087	1,543	1,597	355	3,692	9,748
Printing	—	—	24	123	14	—	23	184
Miscellaneous	25	10	23	4	23	5	5	95
Research and treatment of finds	—	—	157	368	6	—	—	531
Expenditure due to emergency	—	—	—	—	162	—	—	162
Rent of land for digging	—	—	60	—	—	—	—	60
	3,461	3,292	4,202	4,848	5,273	1,276	7,866	30,218

JERICHO RECEIPTS.

Contributions from Universities, Societies and Museums.

	1952	1953	1954	1955	1956	1957	1957–8	Total
	£	£	£	£	£	£	£	£
B.S.A.J.	750	300	300	300	—	—	50	1,700
P.E.F.	400	200	250	—	—	—	26	876
British Academy	500	400	500	500	500	600	1,000	4,000
Birmingham Museum ..	75	100	300	300	300	—	200	1,275
Ashmolean Museum ..	50	100	325	150	300	50	200	1,175
Cambridge University Museum	25	25	75	75	50	—	50	300
Queen's College, Oxford ..	5	—	—	—	—	—	—	5
University of Liverpool ..	—	52	53	52	53	26	—	236
Trinity College, Dublin ..	—	25	25	25	25	25	25	150
Australian Institute of Archaeology	—	100	150	100	100	—	—	450
University of Glasgow ..	—	25	25	—	—	25	—	75
Oxford Committee for Advanced Studies ..	—	100	100	100	100	100	100	600
University of Edinburgh ..	—	10	10	—	—	10	—	30
University of Manchester ..	20	—	20	—	20	25	—	85
University of Leeds ..	—	20	20	20	20	—	20	100
Russell Trust	—	100	200	500	500	500	1,000	2,800
Reading University ..	—	—	11	10	11	10	—	42
Royal Anthropological Institute	—	—	21	20	—	—	—	41
University of London ..	—	—	50	50	50	50	50	250
Leeds City Museum ..	—	—	—	11	10	—	21	42
Trinity College, Cambridge	—	—	—	10	11	—	—	21
Sydney University ..	200	200	200	—	598	—	—	1,198
Nottingham University ..	—	—	—	—	50	—	—	50
Durham University ..	—	—	—	—	25	—	25	50
Royal Ontario Museum ..	—	—	—	174	1,440	—	—	1,614
Leiden University	—	—	—	25	25	—	51	101
Emory University	—	—	—	95	95	—	96	286
A.S.O.R.	942	817	150	757	153	—	—	2,819
Pontifical Institute ..	54	—	—	—	—	—	—	54
Palestine Archaeological Museum	—	250	—	—	—	—	—	250
British Museum	—	—	200	—	—	—	250	450
Peabody Museum	—	—	19	—	—	—	—	19
Holmesdale Natural History Club	—	—	—	3	—	—	—	3
Carried forward ..	3,021	2,824	3,004	3,277	4,436	1,421	3,164	21,147

Brought forward ..	3,021	2,824	3,004	3,277	4,436	1,421	3,164	21,147
British Museum (Natural History)	—	—	—	—	5	—	—	5
University of Lund ..	—	—	—	—	—	175	—	175
Stockholm Museum ..	—	—	—	—	—	125	—	125
Oxford University Chest ..	—	—	—	—	—	—	200	200
American Museum of Natural History ..	—	—	—	—	—	—	50	50
Sheffield Uuiversity ..	—	—	—	—	—	—	10	10
Wellcome Trust	—	—	—	—	—	—	100	100
D.S.I.R.	—	—	—	—	—	—	328	328
Berlin Museum	—	—	—	—	—	—	170	170
Leiden Museum	—	—	—	—	—	—	200	200
	3,021	2,824	3,004	3,277	4,441	1,721	4,222	22,510

Individual Contributions and Miscellaneous.

	1952	1953	1954	1955	1956	1957	1957–8	Total
	£	£	£	£	£	£	£	£
Individual donations ..	79	50	70	194	346	240	1,102	2,081
Appeal in Jordan	—	8	44	116	111	7	79	365
Appeal in U.S.A. and Canada	—	—	32	49	—	—	—	81
Contributions to maintenance:								
B.S.A.J.	200	150	150	150	100	—	100	850
A.S.O.R...	132	48	—	91	—	—	—	271
Miscellaneous	—	89	11	98	197	60	126	581
Contributions to transport of finds	180	89	87	—	—	—	300	656
Sale of guides, etc... ..	—	—	2	25	21	—	—	48
Interest on deposit.. ..	—	—	7	6	3	6	2	24
Lecture and article fees ..	15	—	1,210	246	577	38	1,066	3,152
Miscellaneous	—	39	70	51	52	13	217	442
	606	473	1,683	1,026	1,407	364	2,992	8,551

Total Receipts	31,061
Less total expenditure	30,218
Carried forward to publication account	£843

A BRIEF REPORT ON THE PRE-POTTERY FLINT CULTURES OF JERICHO

By Diana Kirkbride

In view of the enormous amount of flint artifacts and waste that have been found during the 1952 to 1957–8 seasons at Jericho, and the length of time that must necessarily elapse before these can be properly studied and published, a short preliminary report on the main differences in the Pre-Pottery flint cultures may be of interest. This report does not include implements from the Pottery Neolithic, Chalcolithic or Early Bronze Ages but is entirely confined to the Pre-Pottery phases. It must be pointed out that this report is written in the field, without works of reference, and is based on a single season's finds. There was neither time nor space for detailed study and a count of types, but the implements from the Natufian and Proto-Neolithic periods were all examined, as well as the majority from the Pre-Pottery Neolithic A period, while artifacts from only one site, N, of the Pre-Pottery Neolithic B period were included. In short, it is very general, but gives in broad outline the main differences in type of the artifacts from the different periods.

During the 1957–1958 season Squares D I, D II, N, M, O, F and E I, II, V were partially dug to bedrock, and of these, Squares M and E I, II, V produced material earlier than the Pre-Pottery Neolithic A town.

The lowest 45cm. in Square E can be dated with probability to the Lower Natufian by means of a bone harpoon head (pl. XV B Y). This harpoon originally had three very pointed and sharply angled unilateral barbs, but it was broken in antiquity at the base of the top barb. The same type of harpoon has been found at Kebara, Level B (Turville-Petre, F., 1932), Mugharet el-Wad, Level B2 (Garrod, D., 1937) and 'Ain Sakhri (Neuville, R., 1951), and in each case has been dated to the Lower Natufian.

Natufian. Only a small area of this period was excavated, and it is doubtless owing to this and the resultant relative scarcity of the industry that not many typical implements were found.

Lunates. Simple retouch. 1. (Pl. XV B R.)

Sickle Blades. Small backed or partially backed blades with varying degrees of silica polish. 2. (Pl. XIII B O,P.).

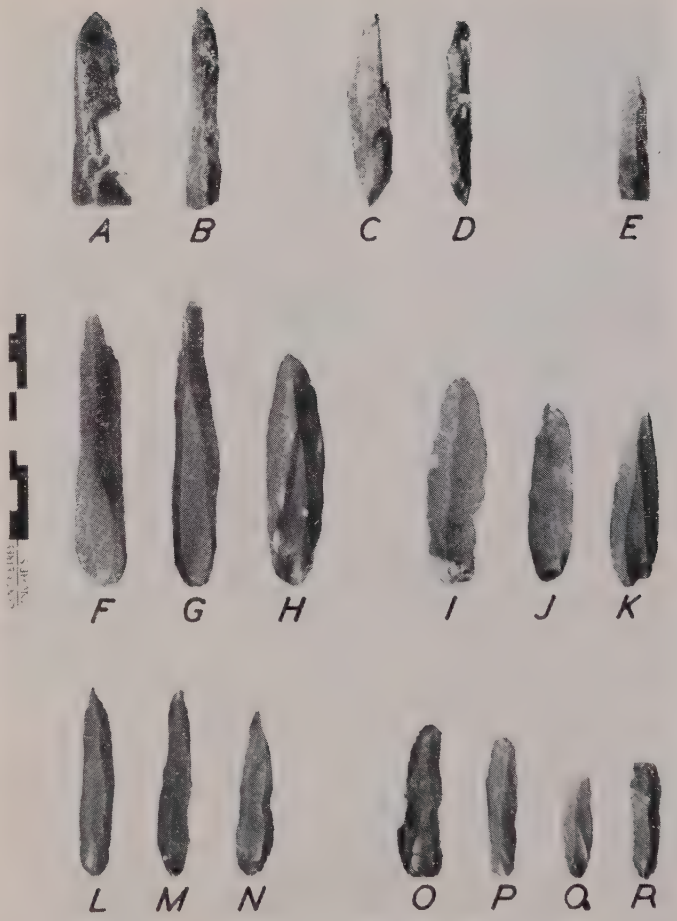
Blades. Numerous small blades, some with retouch. (Pl. XV B S, T, U.)

Borers. Strong and relatively thick blades with steeply retouched edges. (Pl. XV B V, W.)

A. *Arrowheads:* A-N, Pre-Pottery Neolithic B; O-Q, Pre-Pottery Neolithic A; R-S, Proto-Neolithic

B. *Sickle blades:* A-E, Pre-Pottery Neolithic B; F-K, Pre-Pottery Neolithic A; L-M, Proto-Neolithic; O-P, Mesolithic

A. *Burins:* A-E, Pre-Pottery Neolithic B; F-N, Pre-Pottery Neolithic A; O-R, Proto-Neolithic; S, Mesolithic



B. *Trihedral rods:* A-B, Pre-Pottery Neolithic B; C-D, Pre-Pottery Neolithic A; E, Proto-Neolithic

Blades: F-H, Pre-Pottery Neolithic B; I-O, Pre-Pottery Neolithic A; P-R, Proto-Neolithic

A. *Picks, chisels and adzes:* A-E, Pre-Pottery Neolithic A; F-J, Proto-Neolithic

B. *Borers:* A, Pre-Pottery Neolithic B; B-H, Pre-Pottery Neolithic A
Small element in Proto-Neolithic: Points on blades and flakes, burins, core-scraper; I-Q
Mesolithic: R-X; Bone harpoon-head, Y.

Scrapers. Scarce. Only one flake scraper noted. (Pl. XV B X.)

Burins. Scarce. Only one bec de flûte. (Pl. XIV A S.)

No micro-burins were found, and almost no scrapers of any kind. In contrast to the later periods there was no obsidian in the Natufian levels, but again this may be because of the relatively small area excavated.

Proto-Neolithic. Square M was excavated to bedrock in a small sounding about five metres long and a metre wide, with an area of about two square metres at one end. A larger area was cleared to a point over halfway down the Proto-Neolithic deposit, but bedrock could not be reached over the whole.

In this Square about 4 metres of dense occupational deposit was found underlying the Pre-Pottery Neolithic A town. The details of this ancient Tell which had already accumulated when the Pre-Pottery Neolithic A people founded their town have already been given by Miss Kenyon. The flint industry was abundant until about the last 40cm., after which, in an innumerable series of occupation levels which came down on to the rock, there were practically no flints at all although plenty of animal bones were found. The flint material that did appear in these lowest levels was composed of very small waste flakes, but the designation Natufian for the lowest 40 cm. in Square M must remain unproven. The whole of the stage preceding the Pre-Pottery Neolithic A period in M is called the Proto-Neolithic.

Arrowheads. Notched. 2 (broken). (Pl. XIII A R, S.)

Sickle Blades. Both plain and backed. Some of the blades are rather coarse and irregular. The majority showing evidence for hafting with bitumen. (Pl. XIII B L, M, N.)

Burins. Bec de flûte and angle burins, one with an end-scraper on the other end. Mostly rather small. (Pl. XIV A O, P, Q, R and Pl. XV B N, P.)

Core Scrapers. Domed steep scrapers. (Pl. XV B Q.)

Chisels and Adzes. These implements are small and rather chunky bifaces, with and without the tranchet blow. They are mostly made of chert, presumably for greater strength. (Pl. XV A G, H.)

Large Adzes. Made like the smaller ones, but on a considerably larger scale. 2 (broken). (Pl. XV A F.)

Axes. Small axes with splayed cutting ends. 2. (Pl. XV A I, J.)

Points. Numerous fine points on blades and flakes. (Pl. XV B J, P.)

Various small blades, some with retouch (Pl. XIV B P–R), trihedral rods (Pl. XIV B E), and only a very few end-scrapers complete the implement assemblage. The industry as a whole tends to be microlithic in character although a larger element is present in small numbers. The implements are better worked and show more retouch than in the succeeding Pre-Pottery Neolithic A period. The blades were largely made by the punch technique, narrowing to an almost pointed bulb. While the majority of the flakes and

blades had flat profiles, quite a considerable number ran in a pronounced curve. Obsidian was fairly common although the relatively small area excavated does not give a true comparison with the succeeding period. In this medium too there were more blades showing secondary working than in the Pre-Pottery Neolithic A period. A good bone tool industry was also present.

Pre-Pottery Neolithic A Period. The flint industry of the earliest town dwellers was abundant but distressingly monotonous, with few characteristic implements.

Arrowheads. Notched. (Pl. XIII A O, P, Q.)

Sickle Blades. Large and rather irregular, but not narrow. Occasional blunted backs. Some show evidence for hafting with bitumen. (Pl. XIII B F–K.)

Burins. Numerous. Angle, Bec de flûte and Single-blow. One has a hammered end, but as the pressure does not show on the burin point it was probably used as a wedge before being made into a burin. (Pl. XIV A F–N.)

Borers. Numerous. Strong points on narrow blades. Specimens consist of those retouched on both faces, on alternate faces and on one face only. (Pl. XV B B—H.)

Chisels and Adzes. Small and rather chunky bifaces. Some, but not all, with tranchet blows. These are paralleled in the Proto-Neolithic period (Pl. XV A B–E.)

Picks. Big flake-blade heavily retouched on the inverse side and flaked across the top. (Pl. XV A A.)

Various rather small blades, some with retouch, and points (Pl. XIV B I–O), trihedral rods (Pl. XIV B C, D), and practically no scrapers of any kind, an omission which is shared by all the early industries at Jericho, complete the list of artifacts. The flint industry of this period, although largely amorphous, is still microlithic in character. It is essentially composed of small blades, and, as in the Proto-Neolithic period, a good proportion of these had almost pointed butts. The curved profile of a great number of both flakes and blades is even more striking in this industry than in the preceding one. Obsidian was frequently used, but there was little attempt to retouch the implements, which are nearly all small. There was a large bone tool industry in this period.

The chief peculiarity of the Pre-Pottery Neolithic A flint industry is its lack of recognizable characteristic artifacts. In its Jericho form at any rate the only types of tools that are abundant are burins, borers and the small bifacial chisels and adzes. Unfortunately the first two classes are common both before and after this period in any industry that had a use for strong points, and the bifaces are common in both the Proto-Neolithic and Pre-Pottery

Neolithic A periods. At Jericho these bifaces did not occur in the Pre-Pottery Neolithic B period. It is greatly to be hoped that when the time comes for the flint industry of the Pre-Pottery Neolithic A people to be fully studied, clear characteristics will emerge which will enable other sites of this interesting period to be quickly and unmistakably recognized.

Pre-Pottery Neolithic B. The flint industry of this, the latest of the Pre-Pottery industries at Jericho, comes as a glaring change after those of the three preceding ones, a change that is obvious throughout all its remains. The industry is largely composed of well-made, long, thin and narrow blades.

Arrowheads. Numerous. Carefully made, and dividing themselves into 4 classes.

(1) Pronounced shoulders and barbs. The tang varies in length but is generally on the short side. Most retouch is confined to tangs and tips. (Pl. XIII A E.)

Variations occur in this class such as:

Inverse retouch down both edges. (Pl. XIII A A.)
Pressure flaking over top and serrated edges. (Pl. XIII A B.)
Pressure flaking over back and down sides, with slight flaking over top. (Pl. XIII A C.)
Slight inverse retouch down part of one side. (Pl. XIII A D.)
Some pressure flaking on back. (Pl. XIII A F.)
Pressure flaked on back. (Pl. XIII A G.)

(2) Notched Arrowheads. No retouch. (Pl. XIII A H.)
Both sides pressure flaked. (Pl. XIII A I.)

(3) Leaf-shaped Arrowheads without pronounced shoulders or barbs. Both sides pressure flaked. (Example mislaid before photographed.)
Slight inverse retouch along edges. (Pl. XIII A K.)
Unifacial. (Pl. XIII A L.)

(4) Single-shouldered Points. (Pl. XIII A M, N.)

Sickle Blades. Long, thin and very flat blades, some with very fine inverse denticulation. These sickles are not backed. They show signs of use and the majority carry a heavy silica polish. (Pl. XIII B A–E.)

Burins. These are made on long flat blades, and sometimes from other artifacts such as broken sickles. There are angle, bec de flûte and a few polyhedric burins, but the majority are single-blow. (Pl. XIV A A–F.)

There are long trihedral rods (Pl. XIV B A–B), and blades (Pl. XIV B F–H), and a few borers (Pl. XV B A), but again there was a great shortage of scrapers. Obsidian was used but not in such large quantities as in the preceding phase although the implements were better worked and larger. A bone tool industry was also present, but much poorer in quality. This industry is essentially, although with its own local variations, the Tahunian. Parallels for the

arrowheads and other implements were found by Neuville at el-Khiam (Neuville, R., 1951) and by Perrot at Abu Ghosh (Perrot, J., 1952).

There is only one clear break in the flint industries of these four Pre-Pottery cultures at Jericho, and this comes with the latest or Pre-Pottery Neolithic B Phase. This absolute break is further borne out by archaeological evidence, which shows that some disaster overtook the Pre-Pottery Neolithic A people and that subsequently the town was deserted. Then the Pre-Pottery Neolithic B people came and settled on the same site, bringing with them an entirely new style of architecture and flint industry. In fact there is a difference which is evident throughout every facet of their culture.

With the very lowest levels of the Tell at Jericho probably placed in the Lower Natufian on the evidence of the bone harpoon-head lunate and accompanying microlithic flint industry, and with the Pre-Pottery Neolithic B industry having no apparent connection with the three earlier ones, the connection between the Lower Natufian and Pre-Pottery A periods remains to be traced. This can best be done in this brief report by citing Natufian types of implements from elsewhere that are present both in the long Proto-Neolithic and in the Pre-Pottery Neolithic A industries.

Arrowheads. Both in the Proto-Neolithic and Pre-Pottery Neolithic A periods these are of the Natufian type with notches on each side of their bases as found at el-Khiam (Neuville, R., 1951), and at Mugharet el-Wad (Garrod, D., 1937).

Sickle Blades. Backed sickle blades are a Natufian element which continue on through the Proto-Neolithic and Pre-Pottery Neolithic A periods, although on rather large and irregular blades, with plain sickles in use at the same time. The backed sickle blades of the Pre-Pottery Neolithic A period may be the last stage of their development.

Picks. Consisting of big blades heavily retouched on the inverse side and flaked over the top have been found in the Natufian at Mugharet el-Wad (Garrod, D., 1937) and are also present in the Pre-Pottery Neolithic A period.

Steep Scrapers. These are domed microlithic bladelet cores used as scrapers which are very common in the Natufian and, indeed in the Upper Palaeolithic. In Jericho these scrapers were found in the Proto-Neolithic but the cores of the Pre-Pottery Neolithic A period could not be examined.

Borers. Strong points on narrow blades with steep retouching come through from the Natufian and are some of the most characteristic implements of the Pre-Pottery Neolithic A period. They, however, continue into the Pre-Pottery Neolithic B period although they are not so numerous or so carefully made.

Chisels and Adzes. These small, chunky bifaces were present in both the Proto-Neolithic and Pre-Pottery Neolithic A periods, and are some of the most

characteristic features of the latter. The implements with chisel ends were made both with and without the tranchet blow, while the adzes or gouges had rather long and pointed bases and upturned noses. It is difficult to find parallels for these, as not only do Tahunian artifacts of a similar nature sometimes have polished tips, a feature that is lacking in the Jericho examples, but also these bifaces do not appear in the Pre-Pottery Neolithic B (or Tahunian) culture there, but are confined to the earlier cultures. Similar bifaces of all the types have been found at Jerash by the writer (Kirkbride, D., pending), but unfortunately they were found on the surface and a small sounding failed to obtain them in a stratified context.

These types of implements present in the Natufian and elsewhere at Jericho continue through the Proto-Neolithic period into the Pre-Pottery Neolithic A, and the fact that these industries are both microlithic in character, show that the flint industry of the Pre-Pottery Neolithic A period is in the direct line of Natufian evolution. This fact has already been pointed out by Miss Crowfoot (*L.A.A.A.* 1935), in her article on the flint industries at Jericho, where she describes an industry of microlithic character. This industry would appear to be that of the Pre-Pottery Neolithic A period, a fact which is confirmed by comparing the levels reached by Professor Garstang in his sounding with those of the adjacent Squares E I, II, V.

It is hoped that a sufficient outline has been given in this brief account to bring home the fact that the period at Jericho when the first town was founded, fortifications built and solid architecture developed was also the time when a flint industry of microlithic character, running without a break from the Natufian, was in use.

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A SHORT NOTE ON POTTERY FROM IRAN

By Iris Ainley

Travelling in Iran in the Spring of 1959 the writer noticed some pots tucked away on the dustier shelves of a shop in Teheran, dealing in antiques. When questioned, the shopkeeper said he thought they came from " the Caspian " and when asked for more definite information, admitted that they had been brought in by people living in a village called Amlash.

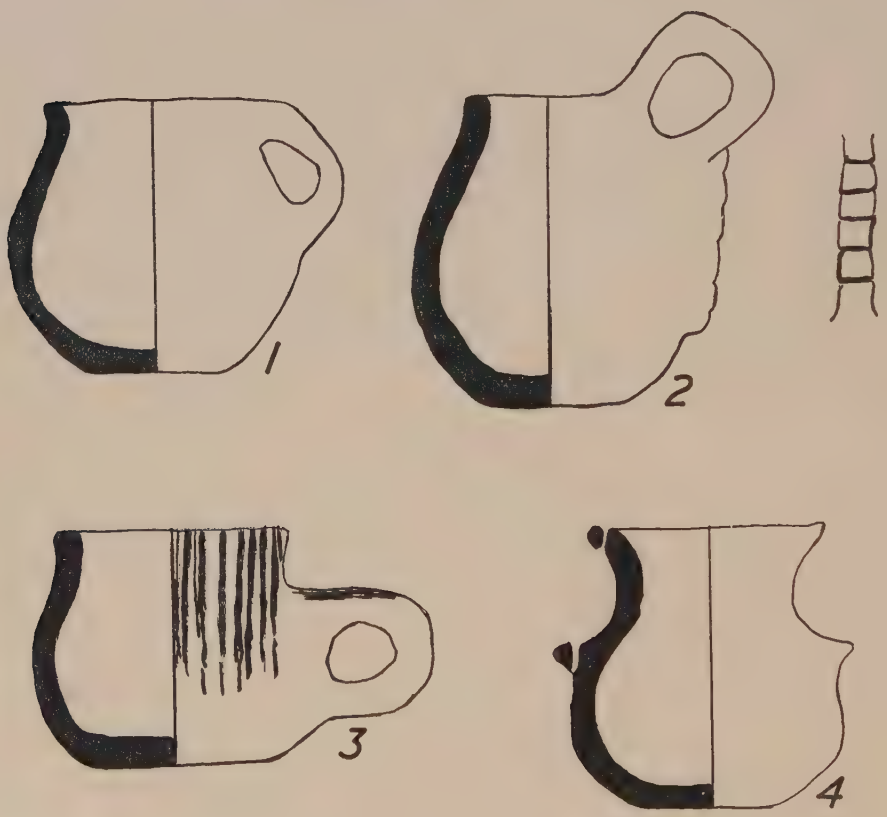


Fig. 1

Juglets probably from Amlash, Iran: 1 and 2, from Amlash; 3, bought in Teheran; 4, bought in Laijan

The journey from Teheran to Resht was easy, the whole three hundred and twenty kilometres being over a firm road. In Resht, by a lucky chance, some educated and helpful Persians were interested and recognized the type of pot by the drawings and description of those seen in Teheran. When Amlash was mentioned, one of the company said he had friends living in the village and offered to point out the way.

One whole day spent in Amlash, a tiny village about fifteen kilometres off the main road from Resht to Ramsa, enabled the writer to see a good many of the finds which the villagers are digging out of the slopes of the Alborz mountains about thirty-five kilometres above Amlash. Among pottery and metals from many periods of culture, there were a few juglets whose similarity to those found in the earliest tombs in Jericho, during the 1957–1958 excavations under the direction of Dr. K. Kenyon, interested the writer.

(1) Wide mouthed juglet of brownish ware: small strap handle. Smoothed and pinkish patch in firing.

(2) Bag-shaped, of a coarse brownish ware: smoothed and fired a darker brown. The loop handle rises out of the rim: there is a narrow strap, notched five times, below the handle.

(3) Wide mouthed cup of drab coloured ware, pitted by the loss of fair-sized grits. Loop handle jutting from one side. Traces of regular lines of reddish brown drip painting from rim over body.

(4) Small jar of reddish ware, few white grits. Rim turning out to form pierced lugs on both sides: two flat lugs (pierced) at the waist. Smoothed and fired unevenly.

All are hand made.

OBSERVATIONS ON MRS. AINLEY'S NOTE

By Kathleen M. Kenyon

Like all areas in the Fertile Crescent, Palestine from time immemorial received incursions of newcomers, sometimes only obliterating preceding civilizations in the area of settled occupation, sometimes contributing a stimulus which resulted in the emergence of a new civilization. One such period which resulted in the emergence of a new civilization was the latter part of the fourth millennium B.C. In it there appeared in Palestine a

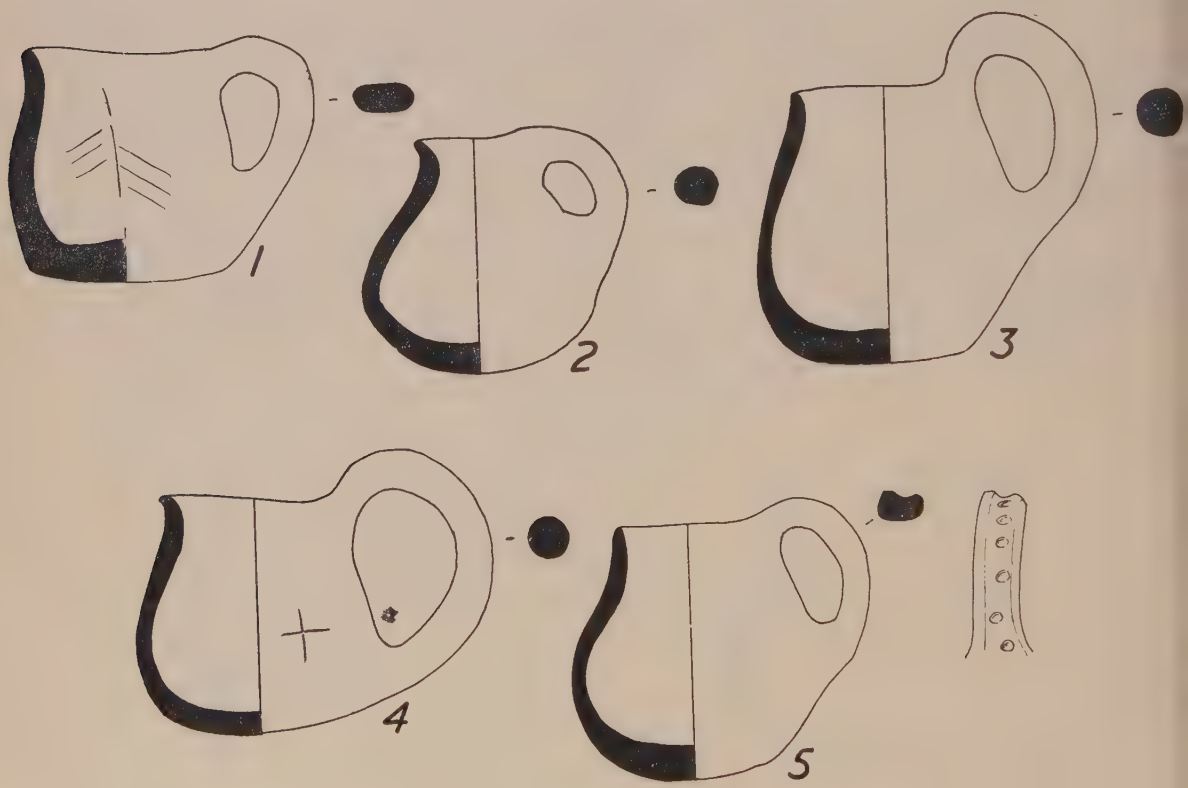


Fig. 2

Juglets from Jericho, Tomb A 94

number of new groups, from the combined contribution of which emerged the new urban civilization of the Early Bronze Age. Jericho, as a frontier town on the eastern boundary of the Mediterranean coast-lands, provides evidence of the arrival of some of these groups. It would be a point of great interest to trace their origins, but evidence from adjacent areas is at present lacking.

One of these groups, to which the name Proto-Urban A has been given[1], had as one of its characteristic tomb deposits a vast number of little bag-shaped juglets. Such a form may appear uncharacteristic, even elemental, but when one attempts to find parallels, very few are satisfactory. Mrs. Ainley was responsible for registering the innumerable examples which came from the tombs of this period at Jericho. Their characteristics endeared themselves to her, and she set herself the task of finding some parallels. By far the nearest that she has found come from the mountains fringing the Caspian. With her recognition of the essential characteristics, I agree. Fig. 1 shows some of the vessels she has acquired, Fig. 2 some of the comparable vessels from Jericho Tomb A94[2].

The site to which she traced the vessels was Amlash. Very recently[3], this site has been given publicity by Dr. Ghirshman as the probable provenance of a number of very fine objects of the Achaemenid and Sassanian period. Mrs. Ainley's little vessels have nothing in common with the sophisticated art of these periods, and must represent a much earlier stratum. It would indeed be a most interesting, and by no means impossible, deduction that some of the nomadic groups reaching the Mediterranean coastal area in the late fourth millennium were drawn from the neighbourhood of the Caspian.

[1] *Jericho* I, pp. 9–10.
[2] *Jericho* I, figs. 12–14.
[3] *Illustrated London News*, April 2, 1960.

EXCAVATIONS AT PETRA, 1958–59

By P. J. Parr

Introduction

Despite the number of travellers and scholars who have visited Petra since its re-discovery by Burckhardt in 1812, the amount of scientific work which has been done on the site is surprisingly small. The air of mystery that has clung to the Nabataean "Rock" for so long has proved, even in the 20th century, difficult to dispel. Apart from a few topographical and architectural studies, of which those of Brünnow and Domaszewski[1], and of Wiegand[2] are the most important, the only serious archaeological work that had, until recently, been attempted at the site was that of the Horsfields in 1929 and succeeding years[3], and of Margaret Murray in 1937[4]; and in neither of these cases was the main work directed towards the investigation of the city of Petra itself, which remained completely untouched until 1954[5].

In that year a programme of clearance and preservation was initiated by the Department of Antiquities of Jordan, and in the course of rebuilding a revetment wall alongside the *wadi* in the centre of Petra, a number of architectural fragments and sculptures were discovered[6]. During the following two years the work was continued by Miss D. Kirkbride, also working for the Department of Antiquities, and a magnificent stretch of the paved street of the Roman city was excavated, as well as several rooms of a range of buildings nearby[7]. But although this work produced some interesting discoveries, and greatly improved the appearance of the site, our knowledge of its history, as evidenced by archaeological remains, was still pathetically small.

In 1958, therefore, when the work of the British School at Jericho was nearing completion, Petra presented itself as a site which might well repay investigation. For six weeks in the autumn of that year, and again from August until December, 1959, excavations have been conducted on the site. The work was sponsored by the British School, and in 1958 substantial financial support came from the University of Oxford (Craven Fund),

[1] *Die Provincia Arabia* I (1904).

[2] *Ver. des deutsch-türkischen Denkmälschutz Kommandos*, Heft 3 (1921).

[3] *Q.D.A.P.* VII, pp. 42ff.; VIII, pp. 87ff.; IX pp. 105ff.

[4] *A Street in Petra* (1940).

[5] Mention should also be made of some small but important soundings made on top of Umm el-Biyara by Dr. W. Morton. Cf. *Biblical Archaeologist* XIX, pp. 26ff.

[6] *P.E.Q.* 1957, pp. 1ff.

[7] *A.D.A.J.* Vols. IV–V (1960), pp. 117ff.

Birmingham City Museum, and the Universities of Sheffield and Leeds. In 1959 the work was carried out in collaboration with an American archaeological team, led by Dr. P. C. Hammond, of Lycoming College, Williamsport, Pa., who acted as Assistant Director of the expedition[1]. Contributions were received, for the British party, from the Ashmolean Museum, the University of Cambridge (Lawrence Fund), the University of Oxford (Craven Fund), Birmingham City Museum, and the Universities of Sheffield, Leeds and Liverpool. Private donations came from Mrs. C. M. Bennett and Mrs. M. A. Cotton. Financial support from America was given by the American Schools of Oriental Research, the American Philosophical Society, the Wenner-Grenn Foundation, and Mr. G. R. H. Kennedy. The American Schools also loaned a certain amount of equipment to the expedition. To all these institutions and individuals the best thanks of the expedition are due. In 1959, also, the Jordanian Department of Antiquities took an active part in the work, thanks to the enlightened interest of Dr. Awni K. Dajani, its Director, and to him and to the successive representatives of the Department who assisted in the excavations[2] a debt of gratitude is also owing.

Aims

The work was envisaged on a small scale only, and with certain definite aims. In 1958 the chief of these was to secure a closely dated typological series of Nabataean and Roman pottery, since it was felt that neither of these ceramic cultures was known well enough, and it was impossible to do further work on Nabataean sites (of which Glueck has recorded hundreds in East Jordan and the Negeb) until the basic " grammar " of Nabataean archaeology was better known. More precisely, it was hoped to discover which pottery, apart from the distinctive painted ware, could be called specifically Nabataean; what were the antecedents of Nabataean pottery; and what was its chronological range. A second aim was to discover evidence of the earliest Nabataean occupation of Petra, and it was hoped that some archaeological remains of the early Hellenistic period (when we know, from literary sources, that Petra was inhabited) would somewhere survive; though at the same time it was clear from the present aspect of the site that many of the earlier levels had been eroded by natural forces, or removed when the Roman city was built. To these aims a further one was added in 1959, when it was decided also to investigate in detail the architectural development of one restricted area of the city, as a key to its history.

[1] Other members of the expedition, apart from the writer, were, in 1958, Mrs. C. M. Bennett; and, in 1959, Mrs. Bennett, Mr. J. Jeffers, Mr. and Mrs. G. Kennedy, Mr. W. Lancaster, Miss D. N. Marshall, Mrs. P. J. Parr, Mr. T. J. Thornton, and Mr. G. R. H. Wright. In both years Père Ch. Coüasnon, of the École Biblique, Jerusalem, spent a period at Petra as architect and surveyor; to him, and to Père R. de Vaux, the head of the École Biblique, we are greatly indebted.

[2] Mr. Sami Rashid (1958), and Mr. Ahmed Sheshtawi and Mr. Abed Shorafa (1959).

With these ends in view, the main work was concentrated on two separate parts of the site, the Paved Street and Monumental Gate, in the centre of the site, and the Katute ridge to the south (see plan, fig. 1). Other minor projects were carried out elsewhere, and will be described later.

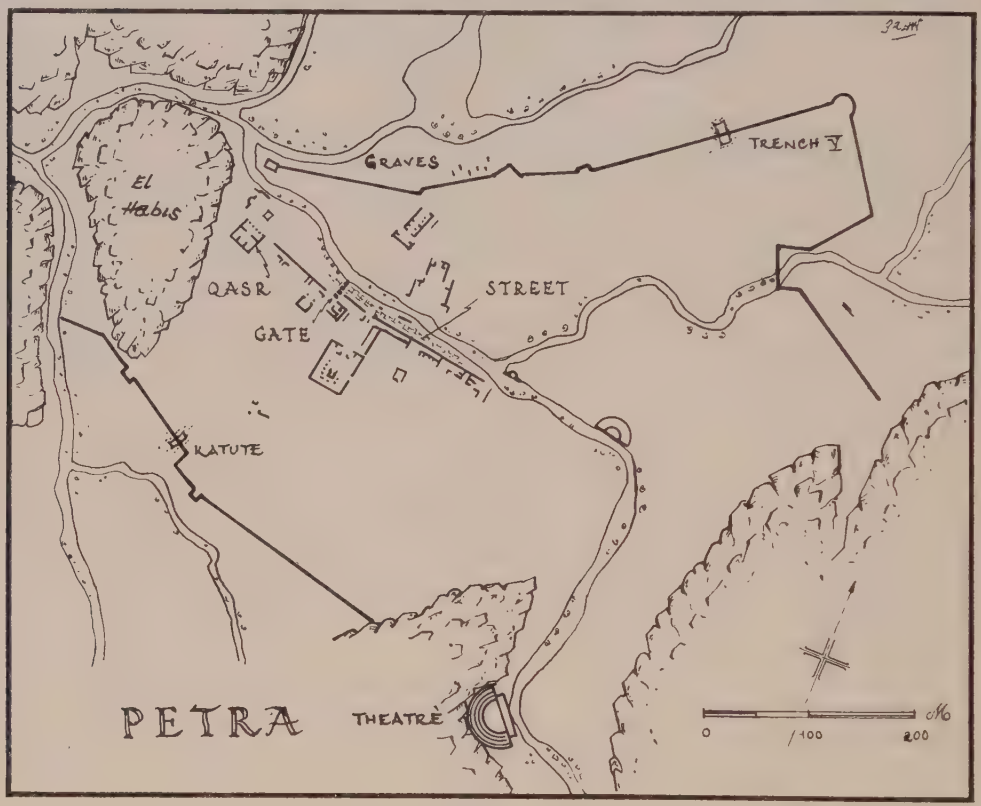


Fig. 1

Katute (Trench I)

The main artery of Petra is formed by the Wadi Musa, alongside which runs from east to west the Roman paved street. To the south, the land rises steeply, and stepped streets must once have provided access to the buildings that now lie in ruins on these slopes. Further south still, however, in the area known locally as el-Katute, the ground is relatively unencumbered by fallen stones, while at the same time the soft, ashy, nature of the surface soil indicates that this was at one time an extensive rubbish dump. It was beneath this dump that Horsfield believed the southern city wall of Petra to run, and his " Cut A " showed an appreciable amount of deposit here[1]. This area

[1] *Q.D.A.P.* VIII (1939), pp. 90ff. and fig. 2.

was chosen, then, as the site of a deep excavation, designed to test the stratification against the inner face of Horsfield's town wall, where the deposits might reasonably be supposed to have been protected from erosion.

A few limestone building blocks which lay on the surface here, and may have suggested to Horsfield the line of the town wall, were shown by the excavation to be the upper courses of a wall, 0·50m. wide, forming part of an annex to a large building further north, the main wall of which still stood to a height of over 3 metres above the original floor level (plate XVI A). This building, the presence of which was completely unexpected, has so far only been partially excavated. In its present form its plan consists of a long narrow room or range of rooms, at least 18 metres long and 5 metres wide, oriented N.E.–S.W. That the original structure was larger than this is proved by traces of walls on the surface extending both to the north and the east; and it is evident that the excavations have so far uncovered only the south-west corner of a very extensive building complex.

Outside the complex, to the west, the stratigraphy suggests that there was originally a courtyard, the beaten earth surface of which was more than once renewed. From this courtyard a doorway led, at the extreme south-west corner of the building, to the small annex (3·50m. × 2·00m.) which has already been mentioned. The walls of the annex are of yellow limestone, in contrast to the sandstone of the main building, and since it projects from the main building in a rather ungainly fashion, it is probably a later addition, though the sequence here is not yet absolutely certain.

The internal arrangement of the main building is curious. Partition walls, two of which so far have been exposed, divide the interior into box-like rooms some 4m. square. In the middle of each partition wall, and projecting a few centimetres from either face, is a kind of buttress; presumably a line of these originally ran down the centre of the building and served to support a roof or second storey. One of the partition walls can be seen on plate XVI B, and a general view of one of the square rooms and the buttresses is shown on plate XVII A. So far there is no evidence of doorways leading from one to the other of the interior rooms.

The walls of the building, both the main external wall and the interior partitions, are built of the very soft local variegated sandstone. They average 0·50m. in thickness. The main wall, which (as has already been mentioned) survives to a height of over 3m., is of carefully worked and evenly coursed masonry on the outside, though its interior face seems rougher (plate XVI B). The upper courses have, however, been very badly eroded, and are also out of vertical, facts to which we shall revert later. The main wall, at least, has also suffered badly from earthquake shocks, and in its present state it is, in fact, a rebuilding on the same line, of an earlier wall, which survives only at the extreme south-west angle, where the masonry is slightly more massive (as can be seen on the far right-hand edge of the photograph, plate XVI A). Curious features of the main wall are the vertical slot-like cavities spaced at intervals

of approximately 1·50 to 2·00m. in the upper courses, the first of which can be seen just to the left of the top of the scale in plate XVI A. These cavities do not penetrate the wall, but are confined to the outer face. They might, perhaps, have been sockets for timbers, though they seem too large for this, and the purpose of timbers here is not too evident.

The nature and purpose of the building itself are not immediately evident, either. Although it lies on the line of the First Town Wall as identified by Horsfield, and is in an admirable position, overlooking the two *wadis* which form the only routes into Petra from the south, the thinness of the walls and the unsuitability of the stone weigh against its being a defensive work, even of the casemated variety. Nor is it likely that we are dealing with an originally solid structure, a platform or podium consisting of a masonry casing with an earth fill reinforced by cross-tie walls, although certain features, such as the absence of interior doorways and the poor quality of the inner face of the main wall, might suggest this; for not only are there definite floor levels within the building, but it can also be proved that the upper part of the wall was free-standing at one time (see below). On the whole it seems that the obvious explanation is the most likely, and that the Katute structure is a monumental building of some sort. At first sight the appearance of the walls, especially of the inner face of the main wall, tells against this. But it can be shown that the upper six courses of the main wall stood for some period of time above surface level after the destruction of the building, and the weathering they were then exposed to amply explains the present aspect of that wall. The proof of this comes from the sections dug up to the inner face of the wall. To simplify slightly, these all show a thick layer of destruction debris from the building lying on the floor levels, followed by streaky layers of softer, sandy deposits. These latter layers are variegated in colour as are the stones of the wall; and in many cases the colour of the layer corresponds exactly with the colour of the stone immediately contiguous to it in the wall. The sandy streaks are, then, undoubtedly derived from the wall, and are the result of its erosion. The situation on the outside of the main wall is somewhat similar, though here the destruction levels are followed by the thick amorphous deposit of the rubbish dump. But it is very noticeable how the top of the destruction levels corresponds closely to the bottom of the main weathering of the wall, and also to the point where the wall first begins to lean out of the vertical (the junction of the fifth and sixth courses down on the photograph, plate XVI A). This fact, namely the survival of the main wall of the building above its own ruins for a period of time sufficiently long to allow for serious erosion, will be significant for the discussion of the chronology of this area. For the moment it serves to explain the present shoddy nature of the masonry. One should also mention in this connection the discovery within the destruction debris of this building of a great quantity of moulded and painted wall plaster, which must once have both concealed and protected the wall. With such treatment inside, and with masonry such as is even now preserved at the

base of the wall outside, there is no reason to doubt the original magnificent appearance of the building.

Only in two restricted areas, both outside the building, have the original floors been reached, and until more evidence is forthcoming the date of its construction must remain uncertain. But from the secondary surfaces within the building, some of them laid down after the partial destruction of the interior walls, a series of coins gives a firm date for the latest occupation of the structure[1]. Of eight coins so far studied, two are of Malichus II and Shaqilath II (*c.* A.D. 40–71), five are of Rabbel II and Gamilath (A.D. 71–106, but late in the period, since Gamilath is Rabbel's second consort), and one is of Rabbel with either Shaqilath or Gamilath, this being uncertain. The significance of these coins is increased when it is noted that four of Rabbel II and Gamilath come from the same layer of make-up beneath one of the secondary floors. There can be little doubt, therefore, that the building was in use at the end of the 1st century A.D., and probably right up until the Roman conquest of A.D. 106, though the apparent lack of Roman Imperial coins suggests that it soon fell out of use then. Judging from the fact that the secondary surfaces from which the coins come in some cases seal the first destruction levels of the building, a date in the first half of the 1st century A.D. for its construction is not, perhaps, unlikely. An earlier date than this for the rebuilding of the main wall is precluded by the discovery of a coin of Aretas IV and Shaqilath I (*c.* 9 B.C–A.D. 40) in a level immediately underlying the construction level associated with that rebuilding.

The earlier and later history of this area, as it is at present known, can soon be told. In the courtyard area on the west of the large building various secondary constructions, notably a poorly built curved stone wall, are associated with later surfaces. These structures are buried in the general collapse of the building, and it is out of this mound of debris that the main wall protruded, as we have argued above, for a period of time sufficient for it to become badly weathered, perhaps as long as fifty to one hundred years. After this period of abandonment the ruins were covered with the soft ashy levels of the so-called Town Dump, providing the site with its present contours. The material from the dump has not yet been studied in detail, but it is fairly certain that it contains nothing much later than the 2nd century in date, and most of it appears to be of the 1st century. It is tempting to think that the material forming the dump was derived from Nabataean levels elsewhere in the city, and to associate it with clearance in conjunction with Roman building activities, perhaps of the late 2nd century, to which period belong many of the Roman public buildings in Petra.

The early history of the Katute area has been revealed in only one small sounding (plate XVII B). This exposed, beneath the foundation of the

[1] I am indebted to Fr. A. Spijkerman, O.F.M., for identifying the coins.

present main wall of the building, the footings of an earlier wall, and below this again almost three metres of occupation debris and surfaces, not associated, in the small area excavated, with any structure. In all a total of five metres of archaeological deposit lies beneath the original floor of the present wall of the 1st century building; and bed-rock has not yet been reached. The importance of this depth and of the unambiguous stratigraphy for the investigation of Hellenistic Petra and for the securing of a long type-series of pottery cannot be overemphasized.

The Paved Street (Trench III)

The Paved Street was chosen as a site for excavation initially because it seemed to offer a good chance of obtaining undisturbed early levels beneath it. Later the work was extended to include an investigation of a range of buildings running alongside the Wadi Musa, between it and the Street. Since it was not desired to move the paving slabs of the Street itself, an area was chosen on the line of the northern portico, or sidewalk, where paving had already been revealed by Miss Kirkbride's work.

An area of some 70 sq.m. was superficially cleared between the range of buildings and the kerb of the Street (plate XVIII A), and the paving of the sidewalk (which had been robbed out in many places) was exposed, together with a later flight of steps, which climbed away from the Street to some structure near the *wadi* which no longer survives; perhaps this was the approach to a bridge. Beneath the paving a deep trench revealed the existence of a series of horizontal gravelly layers, separated the one from the other by thin grey occupation levels. This stratigraphy can best be explained as a series of gravel-surfaced roadways ante-dating the Paved Street, the solid foundations of which, over a metre and a half deep, cut cleanly through them.

The date of the Paved Street is not certainly known, though it is obviously of Roman workmanship and design. On the basis of an important inscription found by her near the Street, Miss Kirkbride has argued for an early 2nd century date, shortly after the annexation in A.D. 106[1]. This would fit with the fact that, so far as they have been studied, the coins from the levels beneath the sidewalk paving do not include any later than the 1st century A.D. It will also be shown, below, that the Monumental Gate, which on stylistic grounds should be dated to the latter part of the 2nd century, is later in date than the Street. If these arguments are correct, then the gravel tracks beneath the Street must be part of the Nabataean layout of the centre of Petra; and their further investigation is a matter of the utmost importance. It may also be mentioned that some of the material found in these gravel layers is of very early date, and includes Hellenistic Black Glazed sherds and coins of the

[1] *A.D.A.J.* IV–V (1960), pp. 119f.

A. Trench I: the main wall of the Nabataean building, from the west

B. Trench I: interior face of the main wall and one of the partition walls of the Nabataean building

A. Trench I: general view of the interior of the Nabataean building, showing (to the right of the scale) a projecting buttress

B. Trench I: the lower courses of the main wall; the footings of an earlier wall; and the deep sounding

A. Trench III: general view from the south, showing street, sidewalk, and late steps

B. Trench III: massive roofing blocks over steps leading from lower to upper level

A. Trench III: paving of sidewalk running up to moulded pier built against *wadi* building

B. The Monumental Gate: general view of the northern passageway, from the East

A. The Monumental Gate: the northern pier and detached pedestal, from the east

B. The Monumental Gate: the foundations. Scale: 1 m.

A. The Monumental Gate: the northern passageway and north-central pier, from the west

B. The Monumental Gate: the curb and door-sockets in the northern passageway

A. The Monumental Gate: a stuccoed pilaster block from beneath the *piazza*

B. The Monumental Gate: remains of the early wall beneath the *piazza*, from the east

A. Qasr el-Bint: the podium, showing marble veneer (behind the scale)

B. Qasr el-Bint: remains of the podium and the surrounding pavement

A. Qasr el-Bint: the podium near the N.E. angle, showing fallen architectural elements

B. Tomb 11: burial No. 2 and its wooden coffin

Phoenician coastal cities, most notably several of the 3rd century from Aradus.

The investigation of the *wadi*-side building has not yet reached a stage when much can be said definitely about it, though the remains themselves are impressive. The building seems originally to have been of two storeys, the upper one level with the Street, and the lower one with the *wadi;* from a footpath beside this a narrow flight of steps led up to the higher level. At the lower level was a series of smallish rooms, one of which was partially excavated[1]. The upper story was supported on arches, while the steps were roofed by massive blocks of stone (plate XVIII B), a type of construction known in Nabataean buildings in the Hauran.

In its original form this *wadi*-building ante-dates the Paved Street, the paving of the sidewalk running up to a moulded pier, which itself has been added to the original wall of the building (plate XIX A). More than this one cannot at the moment say. The building has had a complicated architectural history, the unravelling of which is made the more difficult by the fact that most of the upper levels associated with its reconstructions have been denuded; while at the same time the footings of its original walls have not yet been reached. But while it is not yet possible to make even a rough estimate of the date of its construction, two small hoards of 4th century Roman coins found on the floor of its upper storey, at street level, indicate that in one form or another it enjoyed a long life.

The Monumental Gate (Trench IV)

The excavation, at the west end of the Paved Street, of the entire northern half of the Monumental Gate resulted not only in several corrections and additions being made to the previous architectural study by Bachmann[2], but also in the discovery of some important new evidence concerning the planning of this part of the city.

In plan, the Gate was shown to have originally had detached pedestals and columns in front of its four main piers, facing east along the Street (plates XIX B, XX A). The full significance of this plan will be discussed in the final report, when a detailed architectural study of the Gate will be made; suffice it here to say that a date not earlier than the end of the 2nd century A.D. is normal for similar triple-arched gates elsewhere. The relationship of the Gate to the Paved Street was also clarified, and the priority of the latter was proved. Not only is the Gate not aligned on the Street, but the paving of the latter had evidently been taken up when the massive foundations of the Gate (plate XX B) were put in. The paving had subsequently been repaired,

[1] Other rooms, of this same range, were previously dug by Miss Kirkbride; cf. *A.D.A.J.* IV–V (1960), pp. 118ff.

[2] In Wiegand, *op. cit.*

but with smaller stones. At the same time, the northern sidewalk, originally some 0·30m. above the street, had been terminated about 5m. east of the Gate, and the levels cut down so as to form a flat area in front of the Gate, which was also paved. The same feature will, no doubt, be found in front of the southern half of the Gate, when that is cleared. The result was to form a small paved *piazza* in front of the Gate, on a level with the street, and approached from the sidewalks down two steps.

In the central and northern passageways of the Gate a certain amount of the original paving still survived, and was cleared (plate XXI A), but slightly further west it had all been removed, and the contemporary levels denuded.

That the Monumental Gate is a true gate, and not a triumphal arch, as it has sometimes been called, is proved not only by a curb which runs across the central opening on the line of the Street, but also by the existence behind this curb of sockets for door hinges and for bolts. This feature exists in the northern passageway also (plate XXI B), and no doubt in the southern, as well. It has previously been suggested that the Gate is the monumental entrance to the sacred precinct surrounding the Qasr el-Bint temple, and this new evidence seems to clinch the matter.

Over a portion of the *piazza* in front of the Gate the paving had been removed, and here it was possible to investigate the earlier levels. Beneath the *piazza* and Gate there was a deep fill of massive irregularly placed sandstone blocks, evidently forming a platform to support the Gate and protect it from the eroding action of the *wadi* a few metres away to the north. From this fill came, amongst other architectural pieces, that illustrated on plate XXII A, a sandstone pilaster block with stucco fluting, which most probably came from a building destroyed when the Gate was erected. The evidence this provides of pre-Gate architecture in the neighbourhood is important, and augurs well for future discoveries. Incorporated into the stone platform, also, were the remains of a substantial wall, which had been cut down to make room for the low-lying *piazza*, but which, further east, under the sidewalk of the Street, stood slightly higher (plate XXII B). The alignment of this wall is interesting, since although it is earlier than the Gate, it runs almost exactly at right angles to the front of the Gate, and there can be no doubt that, in some way, the alignment of the Gate is conditioned by this pre-existing wall. The pre-Gate lay-out of this part of the city is one of the problems which await investigation.

In conjunction with the work on the Monumental Gate, a further stretch of the Paved Street itself was cleared in 1959 by the Jordanian Department of Antiquities, carrying on the work begun in 1955. The main result of this work was to produce, from the deep destruction levels overlying the Street, a great quantity of architectural and sculptured fragments which, when studied, may be expected to throw much light on 2nd and 3rd century Romano-Nabataean art.

Qasr el-Bint (Trench X)

In conjunction with an architectural study of the Roman temple known as the Qasr el-Bint[1], which is the one well-preserved free-standing building in Petra today, a few small investigations were made to establish the original floor levels of the building. One of the trenches, at the north-east exterior angle of the building, was particularly informative. It revealed that the temple originally stood on a podium over 2m. high, surrounding which was a paved court. On a line with the *antae* of the temple there was a break both in the design and the construction of the podium. Beneath the temple proper the masonry was of massive ashlar, some of the blocks being as much as 2m. long. In front of the temple and presumably framing the stepped approach, the podium was of much lighter construction, and had been faced with a marble veneer, one slab of which was still *in situ* (plates XXIII A, B).

This trench also produced much evidence for the restoration of the temple. Especially important to note are the elements of the peristyle order (plate XXIV A), and many tile fragments.

The North Wall (Trench V)

In order to test the stratigraphy on the northern side of Petra, as well as on the southern, a trench was cut across the line of Horsfield's North Town Wall (see plan, fig. 1). Unfortunately, the deposit here was very shallow, and no sequence comparable to that found in Trench I was obtained. Some interesting details of the wall were revealed, however; it seems to be undoubtedly a defensive work, being 2m. thick, and founded on bed-rock, which has been cut flat to receive it. Just in front of the wall the rock has been scarped away, so that in effect the wall stood on a slightly raised ledge, no doubt designed to discourage sappers. Although the masonry of the wall was poor, the exterior face showed traces of a hard plaster coating, which must, to some extent, have made up for the constructional weaknesses. Until the evidence has been studied, no suggestion can be made as to the date of this defensive wall.

Cemeteries

Although the location and excavation of Nabataean cemeteries was not one of the aims of the expedition, in the course of the work a certain number of burials were investigated, both those found in the trenches and others brought to our notice by the local Beduin. Of the latter, most lay in the northern part of the site, on the slopes overlooking the *wadis* entering the city area from the north. The distribution of these graves, when plotted, should throw some light on the extent of the residential area in the later

[1] By Mr. G. R. H. Wright, whose report will be published in the next issue of *P.E.Q.* The reader is referred to it for more detailed information concerning the discoveries in Trench X.

period of its history (to which most of the burials belong), since we can assume that the graves would have been dug outside the limits of that area.

Few of the burials produced much in the way of grave-goods, but one, in Trench V, just inside the North Wall, was relatively rich. The body, that of a young person, lay in the usual grave, built of stone slabs set on end to form the walls, though in this case the roof of the grave instead of being flat was built in a sort of gable. The body had been interred with a quantity of iron jewellery, including an anklet and an earring, the pendant of which was a reused scaraboid on which was a crudely formed inscription of three letters, which until now has defied interpretation. Curiously enough, for all the relative lavishness of this burial, the skeleton itself was in a mutilated state; the feet had been severed, certainly before burial, and, strangest of all, the entire pelvis was missing.

One chamber tomb (Tomb 11) was investigated, again in the northern part of the site. This consisted of a vertical rectangular shaft about 3m. deep, out of which opened a large chamber, 4·50m. × 3·40m. × 1·75m. high. At some period the tomb had been used as a rubbish dump, and the whole of the shaft and much of the chamber itself were choked with an ashy fill containing an enormous quantity of broken pottery, mostly, it appears at first glance, of the 1st century A.D. Within the chamber two burials were found: the first, probably the original, lay very crushed and decomposed, on the floor of the chamber; the second was later in date, and lay partly over the first. No grave goods certainly contemporary with either of these burials were found, but the remains of the wooden coffin belonging to the later burial were discovered. Much of the wood had decayed, but near the head of the skeleton sufficient remained to enable the details of the carpentry to be observed and recorded (plate XXIV B).

The Finds

The wealth of objects discovered in the excavations has been so great that little more can be attempted here than a brief mention of some of the more interesting of them. The great quantity of Nabataean and Roman sherds takes pride of place, of course, since this is the material which will ultimately be reduced into a type-series of pottery forms, the securing of which was one of the primary objectives of the work. Apart from sherds, an appreciable number of whole vessels were recovered, including many Nabataean and Roman lamps, and some almost complete examples of the egg-shell Nabataean painted ware. Unfortunately, it is not possible to illustrate any of these here. Until the pottery is studied as a whole, it is difficult to draw any conclusions about its development. One thing is already quite clear, however. The pottery, both plain and painted, from the lower levels of the Katute trench, beneath the 1st century building, is of a distinctly different character from that of the later period. The sherds

themselves are slightly thicker, and the clay is creamier; but the main difference lies in the painting. The paint is light red, rather than dark, as is much of the later paint; the brushwork is distinctive; and the designs seem less formalized than are the later patterns[1]. The stages of the development of this early style into the later " classical " Nabataean style cannot yet be traced; it is sufficient to note at the moment the existence of the two styles.

Few of the coins have so far been studied; we have already cited above some of those which have, and we shall only add here a note of the discovery, mainly in Trench III beneath the level of the Street, of many clear examples of the type which Sir Alec Kirkbride discussed and identified as early Nabataean, but which remain enigmatical[2]. The type has a helmeted head on the obverse, and a winged Victory on the reverse. In view of the discovery also in the present excavations of coins of Aradus of the 3rd century B.C., the close similarity of the coins in question to Seleucid types is, perhaps, a matter for re-investigation.

Of inscribed material the amount found was disappointingly small. The only long inscription comes from a small altar, about 1m. high, found in the debris at the foot of the Monumental Gate. The block is inscribed on three faces, and, so far as it has yet been deciphered, appears to have been written in the reign of Septimius Severus. A few other fragments of inscriptions were found, but nothing so far which can be expected to throw much light on the history of the site.

Conclusion

Finally, the following conclusions may perhaps be suggested on the basis of the present work at Petra:

(1) At least in the Katute area, south of the main Roman city, there is an appreciable amount of Nabataean archaeological deposit.

(2) There is evidence, in the shape of Hellenistic pottery and coins of the 3rd century B.C., of settlement in Petra by that date; but so far no undisturbed levels of that period have been located.

(3) The main occupation of the Katute area ended at about the time of the Roman annexation, and this part of the city remained deserted for a considerable period of time. Thus, the coming of the Romans, though it undoubtedly resulted in the architectural embellishment of the city, also resulted in the contraction of its boundaries.

(4) In the city centre, also, there are substantial Nabataean remains, but these have been obliterated by, or incorporated into, later Roman monuments, which remained in use until at least the end of the 4th century.

[1] Horsfield, *Q.D.A.P.* IX, pl. XL, No. 348, provides an example of this early style of Nabataean painted ware.

[2] *P.E.Q.* 1937, pp. 254ff.

THE EXCAVATION OF A NEOLITHIC VILLAGE AT SEYL AQLAT, BEIDHA, NEAR PETRA

INTERIM REPORT

By Diana Kirkbride

This Neolithic village was found by the writer with the help of the local B'dul tribe during 1956. The discovery was briefly mentioned by Harding (1958) and Kirkbride (1958) but unfortunately a detailed preliminary report left by her in England in 1957 has not yet appeared.

Seyl Aqlat is a seasonal torrent-bed situated in Wadi el-Beidha some 1½ hours' walk north of Petra and about fifteen minutes south of el-Barid. The Grid reference is approximately 194/977, Sheet 3, 1 : 250,000 of the Hashemite Kingdom of Jordan Lands and Surveys series. The seyl begins as a vertical drainage fault high up in the sandstone cliffs which line the western side of the wadi, and descends in a series of steep drops and deep waterholes until it finally flows out into the main wadi from a narrow cleft. The seyl bed is dry for most of the year, but after rain it becomes a small river which rapidly loses itself in the sands of the main wadi, although enough water is retained in the rock waterholes to enable the local Beduin to live and water their flocks in the area for several weeks. Apart from rock pools and Nabataean cisterns, all dependent upon rain, there is no spring in the area nearer than Dibadibah 1½ hours' walk away up the slopes of Jebel Sharah. The seyl runs approximately N.W.–S.E., while the main wadi runs slightly East of North and West of South. The south bank of the seyl is formed by sandstone cliffs and the northern by a bank at least fifteen metres in height composed of fine wind-laid sand. On the top of this bank is a low, but clearly defined Tell running for about 80 metres, with a width of about 70 metres (pl. XXV A). Considerable erosion has taken place in this bank and consequently some of the Tell has disappeared. Dry-stone walls composed of flat sandstone slabs, with their tops only a few cms. below the present surface, are clearly visible in the eroded bank.

During the initial finding and search of the site a large number of unpatinated flint artifacts were found of Neolithic type with parallels from the Jericho Pre-pottery Neolithic B (Crowfoot, 1935; Perrot, 1952; Kirkbride, 1960) (figs. I and II). These artifacts were made from fine quality raw material probably brought from the limestone plateau as there is no flint in the Petra mountains. A Natufian element was also present, the artifacts all bearing a white patination. In addition, several querns, ground-stone

tools and shell beads were found together with lumps of haematite, malachite and mica, and a number of pebble burnishers, some carrying a high polish on two faces which suggested hard use and the possibility of the presence of polished plaster floors as at Jericho. It was in the hope of establishing a link between this village site at Seyl Aqlat and the Pre-Pottery Neolithic B of Jericho that permission was sought to conduct a small excavation there.

The first season of excavation at Seyl Aqlat was carried out during the Autumn of 1958 and lasted for over eight weeks. The writer was in charge, and by the kind permission of the École Biblique et Archéologique de Jérusalem the Rev. Père Couäsnon, O.P., was able to join her for a time as surveyor. The excavations were carried out under the auspices of the British School of Archaeology in Jerusalem and with the help of the Department of Antiquities.

The chief aims of the excavation were to spread sideways rather than to dig deeply, except in small soundings, to try to find out the plan of a Neolithic village, and also the domestic architecture of individual houses, and to obtain evidence for the practice of agriculture and the domestication of animals: in short, to try to reconstruct the economy of the village life. It was also hoped that a firm connection could be established with the Jericho Pre-Pottery Neolithic B in order to expand our knowledge of that civilization. Finally, if, as the surface finds had indicated, there was a Natufian horizon somewhere below the Neolithic, to find whether there was a complete break or a transitional period between the two.

Unfortunately the site had been terraced for agricultural purposes during Nabataean times and three terrace walls cutting into the stratified deposit run the whole length of the area. The resultant breaks in the stratigraphy of the site will mean that the area which lies behind the top terrace wall will have to be deeply excavated before a link can be established with the buildings which lie in front of the lowest terrace wall some 70 metres away. All between them has been cut down and levelled off, but nevertheless the lower levels appear to run through undisturbed.

The site was laid out on a grid of 5 metre squares, and the highest part of the Tell was chosen for the main area of operations. Here a block of four squares covering an area of 10 × 10 metres, and an additional two squares running from the west end of the block, were opened (pl. XXV B), revealing a complex of rooms whose general lay-out more closely resembles a chamber tomb in a long-barrow than any usual form of domestic architecture. The essential plan of a single unit consists of a corridor about eight metres long and a little over a metre wide with opposing pairs of rooms opening off along its whole length. In the most complete unit yet excavated there is an entrance passage about three metres long approached by two descending stone steps, and then six rooms arranged in three pairs. A part of the end wall of the corridor has eroded and fallen down the seyl bank, but the angle of the remaining section indicates that this was the end of the unit. The

rooms are very narrow, their width is usually only a metre or 105 cm., while their average depth is not more than 150 cm.; these very small proportions immediately pose the question as to whether these complexes could ever have served a domestic purpose.

The buildings are solidly constructed with dry-stone walls composed of small slabs and blocks of sandstone with small stones set in the interstices, and care had obviously been taken, not always with success when the plan as a whole is seen, to make the walls straight and corners sharp. A puzzling feature of these building units, of which two almost complete and six partially cleared ones have been excavated to date, is that the small rooms are divided from each other by immensely thick and solidly built stone baulks. These projecting partitions are almost invariably wider than the rooms they divide, sometimes reaching a width of 1½ or even 2 metres, whereas the exterior walls of a unit are usually a more normal width of between 50 and 75 cm. The apparent wastage of space incurred by these wide cross-walls must mean that they had some specific function, either structural or utilitarian. At first it was thought that their comparatively great thickness might have been necessary to act as a strong foundation for corbelled roofs, which would also account for the narrow rooms and corridors, all about a metre wide, a reasonable width to be spanned by small natural blocks and slabs of sandstone which, unless cut into large blocks, easily splits along both horizontal and vertical planes. However, during the second season of excavation in 1959[1], further complexes of rooms of similar plan but earlier construction were excavated underneath the upper Nabataean terrace wall. Here six of these heavy partitions were cleared, two of which had been partially destroyed by the terrace wall, while the other four apparently stood to their full height and all had tops made of thick, hard, white lime plaster. To account for this surprising element it is only possible to put forward a tentative suggestion that some at least of these partition walls served as raised platforms like those found at Khirokitia by Dr. Dikaios (1953), but in no example found so far is there any break in the plaster top.

The contents of the rooms shown in the plan serve to give some indication of the nature of the buildings. Firstly there were a large number of querns distributed over the three rooms on the left-hand side of the corridor, one *in situ* on the floor of the first room and eight others which had fallen from above. This suggests that the roofs were flat and used for grinding. The second room on the left of the corridor contained nine pairs of ibex horn-cores complete with frontals and two single horn-cores, while the third room held nothing of particular interest. The first two rooms on the right-hand side of the corridor contained a large number of ground-stone implements, principally grinders, rubbers and pestles lying both on the floors and in the

[1] The Rev. Père Couäsnon was again enabled to join the expedition as surveyor.

fill of collapsed stone walls and roofs; the third room was incomplete and contained nothing in the small area extant. In the whole of this architectural unit there was no sign of domestic debris such as hearths. The fill above the ordinary occupation accumulation was simply stones from collapsed walls and probably roofs. The extreme smallness of these rooms, and their individual contents coupled with the lack of domestic debris, suggest that they were some kind of communal centre for grinding and storage of wheat, and possibly for the manufacture of bone-tools and other necessities.

This theory was reinforced during the second season when a further block of 7 five metre squares was opened adjacent to the previous season's work. Unfortunately the upper Nabataean terrace wall cut right across the first three squares, and everything in front of it had been levelled off. Immediately behind it, however, we went straight through stone debris into a complex of rooms of the same plan but earlier construction than those already described (pl. XXVI A). The walls stood nearly two metres high, and in one of the plaster-topped partition walls was a small stone shelf or cupboard. Four rooms of this complex were excavated, two of which retained their contents intact, and two which had been disturbed through being used for burials by the inhabitants of a later phase.

The contents of the undisturbed rooms threw additional light on the nature of the buildings. One was full of animal bones, articulated joints and horned heads (pl. XXVI B), while the room opposite, across the corridor, contained a small table made of a slab of sandstone and about thirty really heavy stone implements, basalt choppers, granite grinders, innumerable hammerstones, heavy flint flakes and so on. Possibly this was a butcher's shop, and the heavy tools were the implements of his trade.

One of the rooms from the previous season's work was also excavated down to this earlier level, and here again the contents were undisturbed, giving hope that the village had suffered damage, possibly by earthquake, at that period and was temporarily abandoned with its contents virtually intact. This room contained a fine pair of ibex horn-cores complete with frontals lying on a large slab table, nearby was a second pair of frontals but the horns had been sawn off and only stumps left, another untouched pair also lay close to the table while in the corner was a group of pestles and rubbers and in the corridor a mortar, a polished circular limestone slab and a loom-weight. All the other contents of this room, the bone-tools and flint artifacts, were of specially fine workmanship. These indications have led to its temporary designation as the bone-tool maker's shop (pl. XXVII A).

During the first season's work a large number of fragments of polished plaster coloured red with haematite were found scattered throughout the fallen debris that filled the rooms. The floors of the rooms were of earth, sometimes with flagstones of flat sandstone slabs as foundations, but none were plastered and so it seemed that some of these rooms must have had plastered ceilings. In the second season the four squares opened in front of

the Nabataean wall revealed a large court, seven metres wide and at least ten long; although its full length has yet to be determined (pl. XXVII B). This court is paved with a hard white lime plaster about 7 cm. thick, which closely resembles modern cement but is quite unlike any of the plastered floors found at Jericho. Unfortunately the upper terrace wall cuts down to within a few cm. of the court, making the link between it and the buildings it served uncertain (pl. XXVIII A). Two soundings were made in this court, one showing stone debris from earlier buildings, and the other a similar and earlier plaster floor running up to a wall apparently built against the side of the outer partition wall of the butcher's shop. In an adjoining room to the butcher's shop, similarly deep, and also immediately under and behind the Nabataean wall, there is evidence for continuance of occupation with a steady build up of levels, among them several plaster floors of the burnished type made familiar from Jericho. The floor of the same period as the butcher's shop is also of hard plaster and has a sunken hearth in it, the only one in an excavated area of 10 × 20 metres.

At the end of the first season the link with Jericho Pre-Pottery Neolithic B was still based on a similarity of flints and querns. At Jericho there were two types of querns, the boat-shaped, that is with walls all round, and an open-ended type; at Seyl Aqlat both these types of querns were also present. However, with the second season the link between the two sites was established on a firmer basis by the presence of plastered floors both of the type found at Jericho as well as some of a hitherto unknown kind, but in addition another phenomenon known from Jericho was found, namely, the headless skeleton.

One adult skeleton was found apparently unceremoniously buried head downwards in a rough hole dug in the stone debris of the corridor of the butcher's shop complex, at least the shoulders were far lower than the rest of his body and the skull was missing. In an adjoining room, buried both in the fill that had accumulated over the floor and in the floor itself, were four infant burials, all intact (pl. XXVIII B), with a large later grave dug through the floor in which from the top downwards were found a large pair of horn-cores, an intact infant burial, a piece of the skull belonging to the infant in the centre of the photograph which had been broken when the grave was dug, and finally a carefully buried headless body whose mandible was left in the grave (pl. XXIX A); this skeleton appeared to be of a child or young adolescent probably not more than 14 years old. One other headless body was found, also of between 12 and 14; this too was buried in an individual grave but in this instance the skull had been detached and laid beneath the body. Although there is a similarity in the practice of decapitating the dead in both Jericho and Seyl Aqlat, nevertheless in no instance at Jericho were headless bodies carefully buried in individual graves. During this second season seven intact infant burials were found, as well as two headless burials of young adolescents and one carelessly buried headless adult. From this it could be argued that infants were always left intact, while from the age of

A. Seyl Aqlat, showing the Tell on the top of the bank

B. The excavations of 1958. The upper Nabataean terrace wall crosses the site and its width can be seen clearly in the central square

A. The " butcher's shop " unit. Note the plastered-topped partition walls, shelf, and the blocking of the original corridor

B The " butcher's shop ". Scale: 30 cm.

A. The "bone-tool maker's shop" looking across the corridor. Note that the metre scale is almost too large for the room

B. Looking across the plastered court

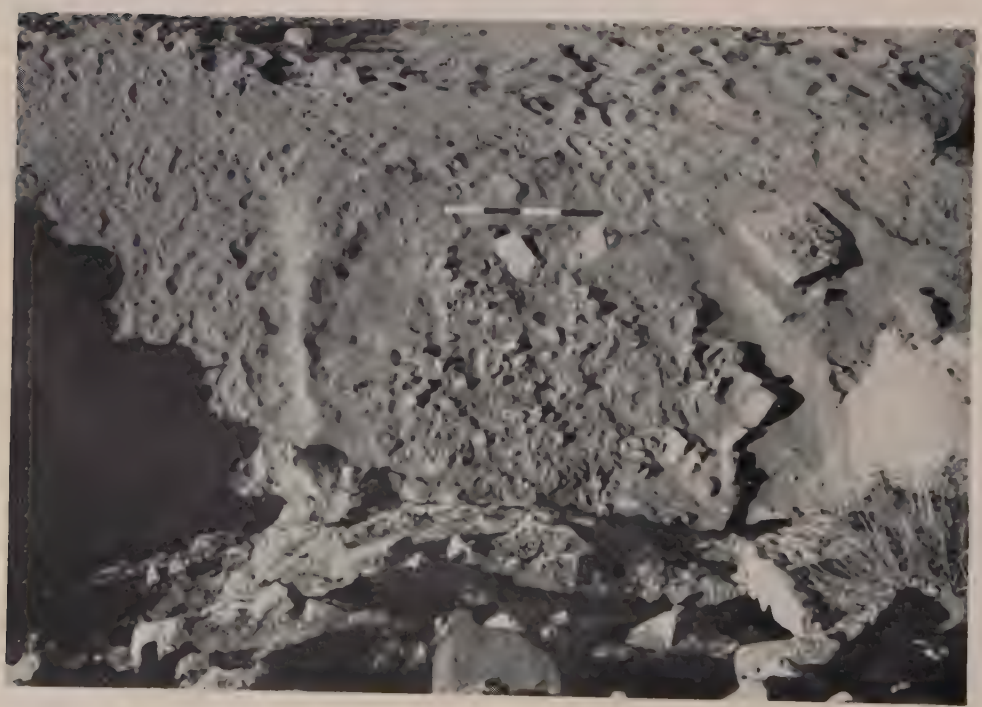
A. The upper terrace wall cuts down nearly to the plastered court. The wall can be seen just to the right of the highest standing figure and also in the baulk beyond

B. Three of the four intact infant burials found in this room. The horns lie in the deep grave which was excavated later. Scale: 30 cm.

A. The headless burial of a child of about 14 years old. The lowest burial in the deep grave. Scale: 30 cm.

B. The large rectangular semi-subterranean room, with later foundations running across it and blocking the door

A. The deep sounding showing over 3 metres of occupation levels. The deeper sounding to the Natufian level is just visible to the left



B. The Lower Natufian hearth area. Note the bones on the sandstone slab to the right

puberty or thereabouts decapitation was practised. It is hoped that more examples will be found which may throw additional light on the subject, as at present there is not nearly enough evidence.

One other square was opened five metres away from the excavated limit of the plastered court and therefore unlinked as yet with the main area of excavation. This square is below the second Nabataean terrace wall and therefore the occupation deposit lies over three metres below the surface. Nicely centred in the square was a room of completely different type from those small corridor complexes across the court. This was a large rectangular room with rounded corners, somewhat reminiscent of the Jericho houses. It seems to have been subterranean to some degree as it is approached by a flight of three descending stone steps, and also the exterior walls are only one skin thick and dug down into the surrounding ground (pl. XXIX B). The plan is so different from all the other tiny cramped rooms that one wonders whether this was the residential area while the other small corridor units were indeed the stores, workshops or even suqs.

The squares opened in 1958 just picked up the exterior walls of a complete building complex and a small unbuilt area outside. Here it was possible to make a deep sounding to determine the total depth of the Neolithic deposit. There were over three metres of closely packed levels (pl. XXX A) and the earliest buildings were founded in very fine, soft sand which was like water to excavate. The sounding was continued down through two metres of this soft whitish sand and finally we came to a horizon of reddish-brown sand in which were Natufian artifacts.

As the investigation of the Natufian horizon would obviously have to wait until the Neolithic village was fully excavated it was decided to make two soundings in the eroded talus of the seyl bank to obtain samples of the flint industry in a stratified context. One sounding which was widened during the second season revealed a large circular hearth area partially outlined by slabs of sandstone and with some slabs apparently used as tables, as bones still lay on them (pl. XXX B). This hearth provided a fine selection of animal bones and horn-cores and also a large number of flint artifacts. The second sounding just tipped a hearth area, and also the end of an irregular pit lined with rolled wadi pebbles. This pit tantalizingly disappears under the Neolithic village and it is impossible to follow it up for the present. The total depth of the deposit is between 50 and 75 cm. There is no transition period between the Mesolithic and Neolithic which are separated by two metres of very fine sterile sand.

The Natufian of Seyl Aqlat parallels that of Mugharet el-Wad level B 2 (Garrod and Bate, 1937), although with some differences which are probably purely local, and it can therefore be assigned to the Lower Natufian. There are numbers of lunates, those with ridge-backs predominating, micro-burins, trapezes, triangles and obliquely truncated bladelets, but there is an apparent lack of the small parallel-sided backed bladelets with slight sway-backs so

common at el-Wad. In addition there are great numbers of end-scrapers and notched blades, the latter in infinite variety, and these two types of implements apparently far outnumber any other found in these soundings. A number of dentalia shells were also found.

In order that some idea may be gained about the types of flint artifacts to be found at Seyl Aqlat without waiting for the final report, a selection of those found during the initial surface survey is appended to this report (figs. I and II), but they are all unstratified.

Summary of Results. Fortunately the site of this village has never again been used for building purposes or settled occupation with the result that, apart from the terracing, the remains are virtually intact and very near the present surface.

So far buildings of two different types have been found: the small rooms with corridor units which seem to have been the communal stores and suqs, and one large rectangular room which was probably residential. In one case of the former class, as in the latter example, descending stone steps suggest that both types of building were slightly below ground level. Soundings and the present excavation on a wide front indicate that there are at least five main building periods with different phases in each.

The village does not seem to have been fortified in any way, and so far there is no sign of any destruction by human agency. Its presence at that particular place indicates that a serious amount of desiccation has taken place since it was abandoned, as the nearest permanent water is now $1\frac{1}{2}$ hours away.

The very large number of animal bones and horned heads, mostly in good condition, will provide evidence for the contemporary fauna of the area and, it is hoped, evidence for or against domestication. In the meantime it can be said that hunting was practised on a large scale.

The large number of querns and grinders present indicate that a great amount of grain was harvested and that therefore true agriculture was practised. Strangely enough, practically no sickle blades have yet been found, but if the theory that the small rooms were what might be called the industrial area is correct we may yet find a room containing the harvesting implements.

Marine shells, some pierced for use as beads, mother-of-pearl pendants and oyster shell forming the raw material have been found, and this also raises the hope that one day the bead-maker's shop stacked with shells and the implements of his trade may be found.

Lumps of haematite, which abounds in the wadis of Petra and the mountains bordering the Wadi Araba, and copper ore which also outcrops all over the same area, were found in abundance.

Plastered floors, both of the burnished mud-plaster type found at Jericho, and also of a very hard, white kind resembling modern cement were present, while in the later period, although the floors were of earth, the ceilings may have been covered with plaster coloured with haematite.

Burials found show the presence of headless skeletons as at Jericho, but with apparent differences in practice.

The Mesolithic horizon is Lower Natufian with some local differences from that of Mugharet el-Wad level B 2. There is no transition period as at Jericho between it and the Neolithic village from which it is separated by two metres of fine sterile sand.

The parallels between Seyl Aqlat and the Jericho Pre-Pottery Neolithic B are close enough to place the former in the same civilization, despite the fact that in every case there are variations in practice or form. It is hoped that the results of a C 14 test will be available in the near future.

The finding of this village in such a remote area, over 200 kilometres from the only other two known examples of the same culture, Jericho and an unexcavated site in the Wadi Shu'aib, gives a more comprehensive view of the time. It presupposes a settled Neolithic village civilization established in the hills between the high, open desert plateau and the Wadi Araba, probably

Fig. 1
Implements from the Neolithic site of Seyl Aqlat (scale $\frac{1}{3}$)

with established trade routes stretching from the Red Sea northwards to Jericho and, as Seyl Aqlat is situated close to the Nabataean route across the Wadi Araba, also westwards towards Gaza. It is hoped that it may be possible to trace these villages further by a series of surveys.

Surface Artifacts from Seyl Aqlat.

Arrowheads. These may be divided into two groups although the range shades one into the other.

(*a*) All unifacial with triangular or trapezoidal sections. Pronounced shoulders, with retouch confined to tangs and tips. 36. (Fig. I.1*a-fi*)

(*b*) As the first group but with less pronounced shoulders. 11. (Fig. I.2.)

Pointed Blade. Worked on back along both edges in a series of small teeth to a point two thirds of the way down the blade, the rest being left plain probably for hafting. 1. (Fig. I.3.)

Single-Shouldered Points. These have retouched tangs, and specimens have the shoulder on either the left or right sides. 6. (Fig. I.6.)

Sickle Blades. Finely denticulated blades carrying a high silica polish. 3. Not highly polished. 16. (Fig. I.5*a–c*.)

Saw-Edged Blades. Large, well-made teeth. 1 and a fragment of a second. (Fig. I.6.)

Strangulated Blades. Double concave scrapers on small blades. 3. (Fig. I.7.)

Points on Blades. Blades with their tips brought to points by careful retouch. 7. (Fig. I.8*a-d*.)

Points on Flakes. 1. (Fig. I.9.)

Blades. Blades with and without retouch. 7. (Fig. I.10*a-c*.)

End Scrapers. On varying sized blades. 4. (Fig. I.11*a*, *b*.)

Nosed Blades. These shade into Group 8, but generally have a more pronounced " nose " or point. 6. (Fig. I.12*a-c*.)

Notched Blades. 5. (Fig. I.13.)

Hollow Scrapers. 3. (Fig. I.14*a-c*.)

Awls. These seem to be a further stage of Group 12. They have no inverse retouch under the points except in *b*. All except one are on blades. 7. (Fig. I.15*a-c*.)

Natufian Element. These are characterized by a white patination.

I. Points. Simple retouch, possibly arrowheads. 2. (Fig. I.17.I *a*, *b*.)

II. Microliths. Small blades, and lunates with ridged backs. 5. (Fig. I.17.II*a-e*.)

III. End Scrapers. 1. (Fig. I.III.)

IV. Double Concave-Scrapers. 1. (Fig. I.IV.)

Core Rejuvenation Flake. 1.

Blades. 2.

Flakes. 8.

Neolithic Artifacts not Illustrated.

Burins. Rather doubtful implements. 3.

Trihedral Rods. 6.

Cores re-used as a scraper and a chisel. 2.

Rod. Very long and narrow unifacially retouched fragment. Possibly a long arrow tang. 1.

Unifacially Pressure-Flaked Fragment, possibly the tip of a foliate arrowhead. 1.

Flakes and Blades. Some showing use or small retouch. 214.

Waste. 1,740.

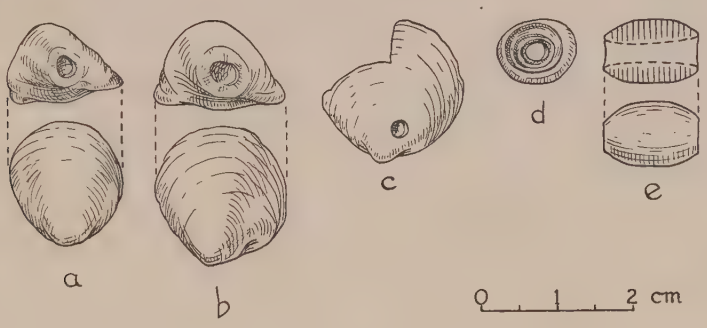


Fig. 2
Beads from Seyl Aqlat

Beads. Pierced cowries. 2. Pierced bivalves. 4. Dentalium Shell. 1. (Fig. 2).

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ELIJAH ON MOUNT CARMEL[1]

By D. R. Ap-Thomas

The eighteenth chapter of 1 Kings, describing the trial scene on Mt. Carmel, has probably caught the attention of everyone at some period. My own interest was re-awakened through reviewing a short monograph by Otto Eissfeldt called *Der Gott Karmel.*

In 1952, or thereabouts, Avi-Yonah, one of the foremost Israeli archaeologists of the day, while visiting the museum of the Monastery of Elijah which stands on the ancient traditional site of his triumph on the N.W. spur of Mt. Carmel overlooking the Mediterranean, found a stone foot inscribed in Greek: Διὶ Ἡλιοπολείτῃ Καρμήλῳ / Γ. Ἰουλ. Εὐτυχᾶς / Κόλ(ων) Καισαρεύς, "To Heliopoleitan Zeus Carmel from Gaius Julius Eutychas, citizen of Caesarea". This Caesarea lay on the sea-coast some twenty miles south of Carmel, but of course we know nothing more of this Eutychas, though the lettering of the inscription is said to suggest a date about A.D. 200. The weight of the stone foot makes it unlikely that it has been carried very far from its original home in some sanctuary on Mt. Carmel itself. It seems indubitable that this stone foot is not part of a statue, but a votive offering commemorating a successful divine intervention in the votary's affairs[2]. This find is of importance because of the occurrence in the inscription of the word *Karmelos* as a divine name. Classical authors such as Tacitus, Suetonius and Orosius have also referred to the existence of a sanctuary on Mt. Carmel, the first named going so far as to state that the name of the deity as well as of his home was Carmel[3]—a statement which had been rejected by several scholars in the past but which now seems to be proved, since the inscription on the stone foot would indicate that the well-known Zeus Heliopoleites has been identified with the local god Carmel—a very common type of identification, as may be verified from A. B. Cook, *Zeus* I, pp. 549–576, etc.

Already in 1935, however, Albrecht Alt had advanced the theory that the Baal against whom Elijah campaigned on Mt. Carmel in the 9th century B.C. was simply the local deity of Mt. Carmel—the *ba'al* or "Lord" of the area. The surprising thing is that through the vicissitudes of over a millennium of troubled history the god Carmel somehow managed to preserve his identity.

[1] The substance of this article was read at the summer meeting of the Society for Old Testament Study held at Exeter in 1958.

[2] See O. Eissfeldt, *Der Gott Karmel*, 1953, pp. 15–17, 44f, and K. Galling, "Der Gott des Karmel" in the Alt Festschrift, *Geschichte u. Altes Testament*, 1953, p. 118.

[3] So Eissfeldt, *op cit.*, p. 8f.

Alt deserves all praise for his acumen, though we cannot, as I hope to show, accept all his conclusions regarding the Mt. Carmel scene, especially his fragmentary hypothesis of its literary structure. It may be admitted that on any theory of its composition, 1 Kings xviii has two main foci: (1) the contest between Elijah and the Baal prophets to establish whether Yahweh or Baal was the more potent god on Israelite soil (*vv.* 21, 36); and (2) the bringing of rain to end the long drought (*vv.* 1, 44f.). The question naturally arises, were these originally one story, or two? As the narrative stands, the stories appear to be quite distinct: only after the recognition of Yahweh's superiority (*vv.* 38f.), and the slaughter of the Baal prophets (*v.* 40) does the approaching end of the drought gain mention (*v.* 41), if we except the introductory reference in the prefatory revelation to Elijah alone (*v.* 1).

Alt goes so far as to say that a close scrutiny will show up the original independence of most of the stories in the Elijah complex, and in particular those in 1 Kings xvii–xviii[1]. He takes it as almost self-evident that 1 Kings xix is not organically related to ch. xviii[2]; and within ch. xviii he would isolate the trial narrative of *vv.* 17–40 from the introductory scene between Elijah and Obadiah (*vv.* 2*b*–16), which is governed by the rain-bringing motive, and finds its fulfilment only after the trial scene, and that, too, in a form quite different from the one envisaged in *v.* 1; this latter verse Alt calls an editorial introduction[3]. The trial scene, he maintains, has nothing at all to do with either the great drought or, indeed, with the Tyrian Baal whose worship Jezebel introduced into Israel, and for whom a temple was built by Ahab in Samaria[4]. The contrary statement in *v.* 19 Alt puts down to editorial insertion intended to link the story on to the story of Elijah's flight from Jezebel in ch. xix. He agrees that the chapter must have a historical kernel, but thinks this was probably the destruction of a well-known sanctuary of the local Baal on Mt. Carmel by Yahweh zealots[5]. Martin Noth's view has clearly been influenced by that of Alt, for he says, " The judgment on Carmel originally had nothing to do with the Baal cult in Samaria, but deals with the taking over of a local sanctuary by the Yahweh cult "[6]. Hermann Gunkel was more ready to view the chapter as a unit—and his opinion on matters of literary affinity is important—but his view of its historicity was very slight, since he regarded the story of Elijah's struggle against Baalism as a projection back into the past of a victory actually won by his successor Elisha[7]; and in this view he has been followed by Gustav Hölscher who declares that although Elijah must be accounted a historical person, everything said of

[1] A. Alt, " Das Gottes Urteil auf dem Karmel " (first published in *Festschrift* Georg Beer, 1935, now reprinted in *Kleine Schriften z. Gesch. Israels* II, 1951, p. 135).

[2] *Ibid.*, p. 137.

[3] *Ibid.*, p. 136.

[4] *Ibid.*, p. 137.

[5] *Ibid.*, p. 138.

[6] *Gesch. Israels*, 1950, p. 210, n. 5.

[7] *Elias, Jahve u. Baal*, 1906, p. 13.

him is thoroughly unhistorical[1]. To cite only one more commentator: Hugo Gressmann[2] regarded chs. xviii and xix as mutually exclusive, and the historical kernel which he finds in the story is almost invisible under the growth of later accretions. The theory which he puts forward (p. 264), that the " trial " was really a joint prayer meeting to pray for rain, seems quite fantastic, and makes the labour of finding the historical in such a fairy tale equivalent to identifying the botanical name of the beanstalk up which Jack the Giantkiller climbed.

In the face of these attempts to belittle the historical value of this chapter, Otto Eissfeldt maintains the essential unity and historicity of not only ch. xviii, but of the whole complex, xvi, 29–xix, 18. Of the elements in the story he, I think justifiably, claims that they have been so welded together into literary unity that they are mutually indispensable, and cannot be separated without damaging not only the story as a whole, but the members also[3]. With regard to date, Eissfeldt believes[4] that 1 Kings xvii, 1–xix, 18, belongs to a narrative cycle put together in the 9th century, or at latest the 8th; which, if correct, would suggest a reasonable degree of historicity for the nationally significant details of the story related.

It is, of course, clear that the story as it now stands contains numerous inconsistencies. Not to look too minutely, we may note that in xviii, 22, and in xix, 10, Elijah claims that he alone is left of the Yahweh prophets, whereas in xviii, 13, Obadiah has told him that he himself had preserved the lives of one hundred[5]. Nor is it really probable that Ahab allowed Jezebel to slay the Yahweh prophets out of hand in the wholesale way and at the time suggested, since in xxii, 6, Ahab still has a band of 400 Yahweh prophets on call. These inconsistencies scarcely however go beyond what we may call " legitimate exaggeration ". The 400 Asherah prophets, who are mentioned in xviii, 19, alone, are usually regarded as having been added to the original text, *e.g.*, by Montgomery[6], though he would allow some pertinence to the gloss since Jezebel's father called himself specifically " priest of Asherah "; but it does not seem possible that even the whole 450 Baal prophets (xviii, 19, 22) were present at the trial, or slain afterwards at the brook Kishon (xviii, 40) since, in spite of some doubtful points in the narrative, it seems that this definitive purge was really carried through by Jehu.[7] But these are really all minor points, and there seems to be little justification for denying that Elijah was responsible for the death of at least some Baal prophets on this occasion, if we are to find any reason in the narrative for Jezebel's sudden

[1] *Gesch. d. isr. u. jüd. Religion*, p. 95f.

[2] *S.A.T.* II, i.269.

[3] *Op. cit.*, p. 32f, G. Hölscher, *Geschichtsschreibung in Israel*, p. 393 says " Im übrigen aber ist I 17–18 ziemlich reiner Text aus E[1]".

[4] *Ibid.*, p. 33 n. 1.

[5] Eissfeldt, *op. cit.*, p. 31 omits xix, 9b–10 as a gloss.

[6] Montgomery-Gehman, *Kings*, I.C.C., 1951, p. 300.

[7] 2 Kings x, 19, cf. Gunkel, Hölscher, *locc. citt.*

thirst for vengeance upon him that caused him to flee southward in ch. xix. This sequel proves also that, as stated in xviii, 19, the Baal against whom Elijah strove on Mt. Carmel was identified, if not identical, with the Tyrian Baal.

Alt seems to be riding his hobby-horse too hard when he claims that xviii, 19f., is an insertion by the editor, made in order to link the trial scene with the story of Elijah's flight[1]. There must have been a reason for the flight, and there seems to be no sufficient reason against accepting the one offered by the text.

The real essentials of the story, historically speaking, seem to be five:—

(1) Elijah's belief that Yahweh worship and worship of the Tyrian, *i.e.*, non-local Baal, type were mutually incompatible;

(2) the staging of some sort of trial of the relative power of the two gods on Mt. Carmel;

(3) the subsequent recognition of Yahweh's superiority;

(4) the slaughter of at least some Baal prophets;

(5) the end of the drought by a rain-storm.

It is on these five points that the paper will proceed. The argument about the date of the emergence of monotheism in Israel sways backward and forward, with the present tendency apparently in favour of an earlier rather than a later date[2]. If we take the term monotheism in its narrower sense—more accurately described as monolatry or henotheism—a good case can be made out for regarding the trial on Mt. Carmel as the starting point on a national scale for the assertion in Palestine of the exclusive right of Yahweh to be regarded as the national god of Israel[3]. If that is correct, then Alt[4] and Noth[5] are wrong in making the Mt. Carmel trial into nothing more than a contest with the local Baal Carmel[6]; and the form of the trial must be envisaged, as the text has it, on a national scale; the historical kernel must be more than " the destruction of a well-known Baal Carmel sanctuary on Carmel by Yahweh devotees "[7]. However many, or however few, of the local Baal Carmel idiosyncrasies survived, or had come into being, at this time[8], it is almost inevitable that the Baal worshipped on Mt. Carmel would

[1] *Op. cit.*, p. 137.

[2] Cf. H. H. Rowley, " The Antiquity of Israelite Monotheism " in *Expos. Times* LXI. 11 (1950), pp. 333ff.

[3] Cf. Montgomery-Gehman, *op. cit.*, p. 308, " The result was for the first time in history a fanatical contest in the name of monotheism ".

[4] *Op. cit.*, p. 138, though he allows a greater influence to him on pp. 8, 10.

[5] *Loc. cit.*

[6] Cf. Montgomery-Gehman, *op. cit.*, p. 308, " Israel could put up with local Baals . . . but there can be but one supreme Deity ".

[7] Alt, *op. cit.*, p. 138.

[8] It should not escape notice that definite proof of a god Carmel is, so far, post-biblical; and the possibility of a widely known god later developing a special local form and becoming a separate god should not be ignored. Cf. W. F. Albright, *F.S.A.C.*, 1940, p. 161; R. Dussaud, *Religion des Phéniciens* (*Collection " Mana "*, I.II), 359.

be of a strongly Phoenician type, because, as Alt, probably correctly, points out[1], until *c.* 1000 B.C., Carmel had remained outside the boundaries of the Israelite tribal territories, and though David may have made some attempt to introduce Yahweh-worship into this part of the country (note the ruined Yahweh altar which Elijah repairs in 1 Kings xviii, 30), Mt. Carmel seems to have gone back into the hostile Phoenician sphere of influence until friendly relations were re-established in the days of Omri, Ahab's father. Eissfeldt agrees that the political and geographical links between Carmel and Phoenicia make it highly probable that this region would show the richest harvest from Jezebel's missionary zeal for the Tyrian Baal, and so Mt. Carmel would be a suitable and natural choice for a show-down between Yahweh and Baal[2]. The two gods most worshipped at this period in Tyre—Jezebel's home town[3]—were Baal Melkart and Baal Shamem. Which of these two was represented in the Mt. Carmel conflict? In some ways the question is rather an academic one; it is difficult, if not impossible to attain certainty, and for practical purposes it makes little difference. Eissfeldt[4], followed by Montgomery[5], favours Baal Shamem; most older commentators[6]—to whom we may add Albright[7] (apparently) and de Vaux[8] (definitely)—favour the identification with Melkart; while Kurt Galling [9], who is not prepared to assert that there was any syncretization of Baal Carmel with either Baal Shamem or Melkart at this time, regards the question of ultimate association or identification as insoluble, since, to quote him, " all Phoenician and Palestinian mountain gods were, in the last resort, also weather and sky gods "[10].

Leaving the question of the name given on Mt. Carmel to the Tyrian Baal, we will examine the proposed test, as described in 1 Kings, xviii, 23–24. Each side is to prepare a sacrifice and place it on its own altar[11], and then, says Elijah, " call ye on the name of your god, and I will call on the name of Yahweh: and the God that answereth by fire, let him be God ". As there is no means of checking the originality of this passage, the proposal must be examined on its merits as a plausible test between Yahweh and Baal. Fire, in this connexion, must mean either natural fire, a volcanic eruption, or a flash of lightning. But the first essential, obviously, if the test is to convince

[1] *Op. cit.*, pp. 140–142.

[2] *Op. cit.*, p. 24.

[3] 1 Kings xvi, 31.

[4] *Op. cit.*, p. 23; cf. *id.* " Baʿalšamēm und Jahwe " in *Z.A.W.* 57, 1939, p. 20, n. 4.

[5] *Op. cit.*, p. 308.

[6] e.g. J. Skinner, *I & II Kings* (Cent.Bi.); A. S. Peake, " Baal " in *H.D.B.* i.210b, T. W. Thatcher, *ibid.*, iii.861a. J. Benzinger *D. Bücher d. Könige*, KHCAT, pp. 105ff does not attempt to identify the Baal by name.

[7] *F.S.A.C.*, p. 235; *A.R.I.*, pp. 81, 157, 196 n. 29, 219 n. 102a. *Ibid.*, p. 81, it is suggested that Melkart was a title of the god Hauron.

[8] *Bulletin du Musée de Beyrouth* V, 1941, p. 8.

[9] *Op. cit.*, p. 121, cf. p. 109.

[10] Cf. R. Dussaud, *op. cit.*, p. 355.

[11] de Vaux, *op. cit.*, p. 7, believes that there were two sanctuaries on the mt., the Yahweh one at the traditional El Muhraqa, overlooking the plain of Jezreel, whereas the Baal worshippers had their quite separate area presumably at the N.W. end of Mt. Carmel—an attractive suggestion.

the people of Israel, is that the proposed test should not favour Yahweh to the disadvantage of Baal.

Now Yahweh is often associated with fire and with volcanic action, *e.g.*, the burning bush (Ex. iii, 2 J), the pillar of fire (Ex. xiii, 21, etc., J). Oesterley and Robinson tell us, " The descriptions which we find in Exodus suggest that Yahweh's original home was in a volcanic region "[1]. Baal, seemingly, had not this association. In any case, Mt. Carmel, which is a limestone spur, would make volcanic action in this scene geologically impossible, and even supposing that the locale had been altered in the transmission of the tradition—an unlikely supposition—a volcanic eruption would have wiped out the whole assembly, and not only the Yahweh altar and offering.

As regards lightning, which is definitely indicated here according to Montgomery[2], Oesterley and Robinson[3] state that " the Hebrews recognized the presence of Yahweh in the storm " (cf. Ex. ix, 23f.E; 2 Sam. xxii, 15, etc.); while Albright[4] tells us that " the figure of the great storm-god Baal, king of the gods, dominated the Canaanite pantheon ". To be precise, Albright makes this statement of Hadad; and the statuettes of Baal brandishing a thunderbolt[5] are normally identified with Hadad rather than with Melkart[6], who was primarily a god of the underworld, though also a cosmic deity, according to Albright[7]. But in view of the " extraordinary fluidity of personality and function "[8] characteristic of these Baal figures, it is quite possible that for the Tyrians, Melkart could and did act as a storm god, and Albright definitely states [9] that the " Baal of Tyre was lord of the storm ". If the Tyrian Baal *was* Baal Shamem, there is no difficulty at all, because he, the " Lord of Heaven ", was frequently identified[10] with Hadad the storm-god *par excellence*, at whose annual ritual death, we are told in the Ugaritic epic of Baal, " women cease to draw water from the spring, the well of the temple ceased to yield water "[11].

Ability to bring about a storm of thunder and lightning might therefore be regarded as a very fair test of power in popular estimation, between Baal and Yahweh; and the test on Mt. Carmel most probably demonstrated Baal's failure, and Yahweh's ability, to produce this result. But was the production of a thunderstorm the sole desired event?

[1] *Hebrew Religion*[2], p. 154.

[2] *Op. cit.*, p. 308.

[3] *Op. cit.*, p. 155.

[4] *A.R.I.*, p. 73.

[5] See J. B. Pritchard, *A.N.E.P.*, pl. 490, 501, 537; L. H. Grollenberg, *Atlas of the Bible*, pl. 168, 170, 219; and the same or similar illustrations in other works.

[6] For an Aramaean representation of the latter, see J. B. Pritchard, *op. cit.*, pl. 499. R. Dussaud, *Découvertes de Ras Shamra et l'Ancien Testament*, 1937, p. 99, seems to identify the Tyrian Melkart with Hadad, at least for the purposes of the Mt. Carmel trial.

[7] *A.R.I.*, pp. 157, 196 n. 26, 219 n. 102a.

[8] *A.R.I.*, p. 71.

[9] *F.S.A.C.*, p. 333, n. 43.

[10] W. F. Albright, *A.R.I.*, p. 73. R. Dussaud, *Religion des Syriens* (*Collection "Mana"* 1.II), p. 401, denies that there is such an identification on the Zakir-ba'al stele.

[11] So Albright, *A.R.I.*, p. 85.

It might be argued that Yahweh was already authenticated as a thunder-god, and so was Baal. This would then be a fair trial of strength, but would not prove anything *new* about Yahweh. How would the matter stand, however, if to the raising of a storm we add as the real issue, who can bring rain? The *writing prophets* urge the fact that it is Yahweh who provides the rains and consequent crops, and this urging suggests that the ordinary people were sceptical, attributing this function to Baal still—a charge explicitly levelled at them by Hosea[1]. In Palestine, thunderstorms " are always accompanied by rain or hail "[2], consequently the theory seems plausible that the coming of rain after the drought was not a mere sequel to the trial scene, but of its essence. Notice that this is the avowed intention of Yahweh in 1 Kings xviii, 1, " Go, show thyself to Ahab that I may give rain upon the earth ". Note also that in xviii, 41, Elijah says, " Go up . . . for it is the sound of the roar of the rain ". (Cf. for the phrase Jer. x, 13 = li, 16, in which passages the rain is clearly associated with a thunderstorm.) It seems much more likely that the sound alluded to by Elijah here is a thunderclap, rather than a sound " audible only to Elijah's prophetically sharpened ear "[3].

One may ask: What other indications are there in the narrative that the production of rain was the desired end? Sir J. G. Frazer[4] has collected numerous examples of rain ceremonies both to procure and to stop rain. Although his treatment of the Mt. Carmel scene is not a very happy one, some of the parallels adduced are at least suggestive. It might be going too far to attribute the withholding of fire from the prepared sacrifices (*v.* 23) to an attempted coercion of the deity by putting a tempting sacrifice out all ready for burning as soon as rain should come—Frazer lists several instances of this " carrot before the donkey's nose " type of ceremony[5], but there may be something in the suggestion that fire was not applied, lest it should dry up the desired rain. Surprisingly enough, Umaiyya b. Abi 's-Salt tells us that amongst the ancient Arabs during a drought the emaciated cattle would be driven from the plains to the mountains where burning faggots would be tied to the tips of their tails in order to rouse the heavenly ocean into activity[6]; but this would not be the only example of opposite means being used to attain identical ends.

Regarding many of Frazer's suggestions, however, as at best precarious, we may fairly confidently see a rain-bringing ceremony in the Baal-prophets' dance around the altar (*v.* 26), since, according to Raphael Patai[7], the ancient

[1] ii, 7; cf. Amos iv, 7; Jer. v, 24; Isa. xxviii, 29.

[2] J. Patrick, *H.D.B.*, IV. 757.

[3] C. F. Burney, *Notes on . . . Books of Kings*, p. 227, quoting Klostermann; cf. also Skinner, *op. cit.*, *ad. loc.*, for a similar explanation.

[4] *The Golden Bough*, III. 248ff.

[5] *Loc. cit.*

[6] J. Wellhausen, *Reste arab. Heidentums*[2], p. 167.

[7] " Control of Rain in Ancient Palestine ", *H.U.C.A.*, xiv. 1939, p. 255.

Arabs circumambulated the Ka'ba stone in Mecca in order to bring rain, and modern Palestinian Arabs dance and leap with bended knees, with the same object[1].

It is also quite certain that the prophets' self-laceration until blood flowed (*v.* 28) could be a rain-bringing device, since Frazer lists several examples among primitive peoples[2], and within the Old Testament itself we have Hosea's denunciation of his apostate people that " they cut themselves for corn and wine "[3].

The Baal-prophets' attempts all failed; Elijah now tries his hand with quite different methods, and though we would not go so far as Patai does in claiming that " every single action of his has its symbolical significance "[4], yet beneath the perhaps later imposed orthodoxy of action, we may discern much that seems to be based on recognized folk rituals for procuring rain. Four jars are filled with water and emptied over the altar—not to dispose of unworthy suspicions as to Elijah's *bona fides*, which is an attitude not normally met with in the Old Testament, and certainly not in order to make a really good blaze by palming off jars of liquid naphtha as water[5], and then setting light to it by means of focussing the sun's rays onto it by means of a mirror[6], as has been seriously suggested ! No, the water would be thrown over the sacrifice as sympathetic magic[7]. Montgomery's objection that in such ceremonies the water was not applied to the altar itself[8] is not an insuperable objection, nor is Alt's rather naïve argument[9] that the use of so much water proves that there was no drought at this time! Patai[10] maintains that the four jars represent the four winds; but they may have some other ritual significance[11], and the fact that the four jars were filled three times may be a later accommodation to make the number of douches correspond to the twelve tribes of Israel, or it may be original—three was a " lucky " number.

This ritual is immediately effective in bringing the *promise* of rain—lightning is seen, and, according to *v.* 38, it even strikes the altar, consuming

[1] *Ibid.*, quoting Wellhausen, *Reste arab. Heid.*, p. 141; Dalman, *Arbeit u. Sitte*, I. 146; *idem*, *Paläst. Diwan*, pp. 276ff., 273.

[2] *Loc. cit.*

[3] *Hos.* vii, 14, following *ca.* 20 MSS. and LXX. M.T. has " They assemble themselves ".

[4] *Op. cit.*, p. 256.

[5] Hitzig, *Gesch. Israels*, I.176; cited by Montgomery, *op. cit.*, p. 307.

[6] R. H. Kennett, *O. T. Essays*, pp. 103ff.; cited by Montgomery also, *op. cit.*, p. 307.

[7] Cf. Frazer, *op. cit.*, III.248, and A. Scheftelowitz, *Alt-palästinensischen Bauernglaube*, pp. 93f., where we are told that water was poured onto ploughed land to bring rain onto it, and on unploughed land to bring rain onto that; if wanted on both, water was poured onto both. S. also refers to an interesting old Persian water-pouring festival described in *Journal As.*, 1842 II. 135.

[8] *Op. cit.*, p. 308.

[9] *Op. cit.*, p. 136.

[10] *Op. cit.*, p. 256.

[11] Cf. Ermann, *Lit. of the Ancient Egyptians* (tr. Blackman), p. 9: " Satis [the Egyptian goddess] hath washed him with her four pitchers ".

it with the sacrifice upon it, and then evaporating the water which had filled the surrounding gulley so carefully dug, whose measurements, or rather, system of measurement, still puzzles commentators[1].

Yahweh has proved his superiority over the Tyrian Baal, but the rain has not actually arrived. In the immediate sequel to the people's acceptance of the lightning as a sign, the prophets of Baal, at Elijah's command, are taken down to the Kishon and killed[2]. This may be power politics, but it might conceivably also have reference to the bringing of rain, because we may recall that when Israel suffered a three-year famine—which is equivalent to saying, drought—in the days of David, seven of Saul's sons are put to death " in the mountain before Yahweh " (2 Sam. xxi, 8f.). Even if shedding the blood of victims in this fashion is not a rain-charm in the positive sense here, to leave wrong-doers alive was clearly a sin for which rain might be withheld[3], especially if the wrong-doing were idolatry[4], though perhaps passages from Jeremiah and Deuteronomy should not be pressed too far with reference to the days of Elijah.

The trial on Mt. Carmel now leads on to the section which even Alt concedes is connected with the bringing of rain—*vv.* 42–44. If this section were to be separated from the trial scene, as Alt would have it[5], the best ground for such an argument would be, not that the preceding narrative is not concerned with ending the drought, but that in the sequel an entirely different procedure is followed: " Elijah went up to the top of Carmel, and he bowed himself down upon the earth and put his face between his knees. And he said to his servant, Go up now, look toward the sea " (*vv.* 42f.). Montgomery[6], with others, sees in this an attitude that " implies ecstatic absorption, the subject sees nothing, another must be his eyes." If it really were " ecstatic absorption ", it is peculiar that he was able to carry on a rational conversation with his servant! No, the explanation must be that Elijah by crouching in this hunched-up fashion is making himself as like a cloud as he can in order by his example to draw a rain-cloud up out of the sea on to Mt. Carmel. At the seventh visit, Elijah's servant is able to report success: " There ariseth a cloud out of the sea, as small as a man's hand " (*v.* 44). Elijah apparently keeps his cloud attitude until the rain-storm has reached his vantage point

[1] This may have to remain a mystery, but it would seem possible that the " seed " was actually strewn on the floor of the trench as part of the ceremony (p. 153, n. 7)—the rain was wanted for the crops, and this may have served as a symbolic representation thereof. The antecedents of the term *tᵉ ʿālâ* are not very clear, but in view of the fact that in two at least of the three other instances (or two out of four, if 2 Kings xviii, 17 = Isa. vii, 3 does not refer to the same object as 2 Kings xx, 20 = Isa. xxxvi, 2) it means a tunnel or boring, it may appear more probable to some that Elijah dug one of those pits for drink offerings which are familiar from excavations as being associated with altars. Cf. also, Hastings, *E.R.E.* XI, 506a.

[2] Montgomery's doubts (*op. cit.*, p. 306) seem to rest on apologetic motives.

[3] *Jer.* xiv, 1–7.

[4] *Deut.* xi, 13–17.

[5] *Op cit.*, p. 136.

[6] *Op. cit.*, p. 306.

overlooking the Mediterranean—too soon a discarding of this attitude might easily cause the cloud to sink back again into the sea—but having avoided this danger by sending his message to Ahab by means of his servant, Elijah then " girded up his loins, and ran before Ahab to the entrance of Jezreel " (*v.* 46). This final statement of the chapter is regarded by all commentators known to me as having nothing really to do with what precedes, but as simply recording that Elijah, under divine compulsion, acts as outrunner and herald for the chariot-riding Ahab. This mark of honour and respect to the wicked king has occasioned much well-founded surprise among commentators. It is true that Ahab is depicted in a more favourable light than usual in such a passage as 1 Kings xx, but even there his actions do not please members of the prophetic order (xx, 35–45); and it is very improbable that Elijah would seek to honour Ahab in the passage under discussion. It seems much more likely that in running the 17–18 miles from Mt. Carmel to Jezreel, Elijah is in fact not honouring Ahab, so much as continuing to act in his symbolic capacity of rain-cloud, and is bringing the rain from the coast to the parched plain of Esdraelon.

So understood, the whole chapter, whether composite or not, is seen to have a single motive from beginning to end:—the bringing of rain, that Yahweh's supremacy may be established in Israel, not by a barren Pyrrhic victory through a supernatural fire-bolt, but by meeting the crying need of His people for water, so that Baal—be he Baal Carmel, Baal Melḳart or Baal Shamem—is brought down like Lucifer from heaven.

REVIEWS AND NOTICES

Myth, Ritual, and Kingship. Edited by S. H. Hooke. Clarendon Press, Oxford. 1958. 308 pp. 35*s.* in United Kingdom only.

This volume is the successor to *Myth and Ritual*, that collection of essays edited by Professor Hooke and published twenty-seven years ago, which has inspired numerous books on the myth-ritual complex. This former volume received considerable attention, and in so far as it can rightly be said that there is a Myth-Ritual-Pattern School, this is the source whence the new stream flowed. Many commended the volume with great enthusiasm, a few condemned it with equal zeal: nobody ignored it. A comparison of the two volumes shows how much water has flowed under this particular bridge which sought to establish a two-way traffic between ritual and myth.

There are three essays which deal with king-rituals in other lands: " The Practice of Kingship in Early Semitic Kingdoms ", by Sidney Smith; " The Kingship Rituals of Egypt ", by H. W. Fairman; " Hittite Kingship ", by O. R. Gurney. These essays are mainly factual and provide the material for Professor G. Widengren (" Early Hebrew Myths and their Interpretation ") and his fellow myth-ritualists " to establish the position of Hebrew myths within the framework of the supposed Myth and Ritual pattern of the ancient Near East ", which I judge to be the aim of the Myth-Ritual School. The contrast to such a full-blooded attempt is provided by R. De Langhe in his essay " Myth, Ritual and Kingship in the Ras Shamra Tablets ". This essay might be expected to provide a fourth mine of material, more important than the others because it is presumably more closely related to Israel both in time and space. But this does not happen. Professor De Langhe points out the wide variations in the translations which have been offered by scholars. The state of the tablets and the consequent incomplete and defective exegesis make deductions and reconstructions inevitably provisional. He holds that in the interpretation of the tablets it is unnecessary to go beyond the theory of myth as an expression of ideas, hopes and aspirations. To assume the existence of mimes or dramas is to go beyond the evidence. In particular he is very critical of Theodor Gaster's *Thespis*, a book which is most " attractive " and " alarming ", with its thesis of drama, ritual and myth, and all originating in the seasonal rituals. Professor De Langhe also writes of what he calls the unsound method of adducing a parallel from extraneous sources, a habit against which, it is right and proper to say, the editor himself both now and previously protests. De Langhe agrees that " while it may be admitted as a possibility that fertility and fecundity rituals and myths exist in the text, there can be no doubt that they exist in the minds of the commentators ".

The contrast to De Langhe's essay is to be found in G. Widengren's study of " Early Hebrew Myths and their Interpretation ". Here we get the full-blooded myth-ritual pattern with the search for similarities in near-by cults. It is indeed well that this essay is to be found in the volume, because otherwise we might assume that the " school " is moribund. A. R. Johnson in his essay " Hebrew Conceptions of Kingship " occupies a mediatory position. H. H. Rowley (" Ritual and the Hebrew Prophets ") distinguishes between cultic and canonical prophets, and is doubtful if cultic liturgies formed any large part of the prophetic canon. S. G. F. Brandon (" The Myth and Ritual Position Critically Considered ") sees little real evidence of a ritual-pattern in Israel-Judah with its annual festival in which the king played an essential part. The most convincing evidence is Babylon, but here the documents are relatively late.

To return to the first essay in the volume, that of Professor Hooke himself: he emphasizes that what was described in the earlier book was not so much what the prophets stood for as what they fought against. In particular he defends the Myth-Ritual Pattern position against Frankfort's attack on it in his *The Problem of Similarity in Ancient Near East Religions*. This introductory essay is essentially moderate in tone and claim, and will commend itself to many who hitherto have been critical of the claims of this group of scholars. With respect to other writers of the " school ", my mathematical master at school would not look at any of our work if he saw the word " obviously ". He said that such a word meant that the statement was not obvious to any but the author and that it covered a hiatus in the argument. I have seen no reason through the years to doubt his statement, though I know that often the use of such words is due to zeal for the theme.

The volume is of the utmost importance, and the editor is to be congratulated that he is responsible for the publication of essays which are critical of the Myth-Ritual School, as well as of one essay in particular which is reverently in favour. This fair-minded and essentially proper policy gives one all the more confidence in the fairness and critical judgment of the editor's own essay.

N. H. Snaith.

Qumrān und das Johannes-Evangelium. By Günther Baumbach. (*Aufsätze und Vorträge zur Theologie und Religionswissenschaft*, herausgegeben von Erdmann Schott und Hans Urner, Heft 6). Berlin: Evangelische Verlagsanstalt. 1958. Pp. 60. DM 2.70.

The author submitted in 1955 to the Theological Faculty of the Humboldt University in East Berlin a doctorate thesis under the title *Der Dualismus in der Sektenrolle im Vergleich mit dem Dualismus in den spätjüdischen Apokalypsen und dem Johannes-Evangelium.* A summary of his thesis has been published in the *ThLZ* 81, 1956, on col. 565.

The present little book is an excerpt from the larger thesis; the author characterizes this excerpt in the sub-title of his book as " eine vergleichende Untersuchung der dualistischen Aussagen der Ordensregel von Qumrān und des Johannes-Evangeliums mit Berücksichtigung der spätjüdischen Apokalypsen ". The affinities in thought and expression that exist between certain writings of the Covenanters from the Judaean Desert and the Fourth Gospel have in recent years engaged the minds of many theologians, mainly Catholics (*e.g.* W. Grossouw, F.–M. Braun, F. Nötscher, R. E. Brown), who endeavoured to define both the similarities and the dissimilarities in the religious outlook governing the thoughts of the Qumrān brotherhood and of the Fourth Evangelist, respectively. The book here reviewed, by a Lutheran author, contains the most comprehensive and most detailed investigation into the subject, from any non-Catholic writer, which the reviewer has yet encountered.

Baumbach takes as the basis of his exposition the text of 1QS iii, 15–iv, 1 and iv, 15–25. From this text he explains the covenanters' concepts of God, of angels and spirits, of Satan (Belial), as well as their cosmology, their ethics, and their understanding of the world's history. He explains the exact connotation of the antithesis " Light—Darkness " in the covenanters' religious thought. Most important is probably the contribution Baumbach makes to the proper appreciation of such topics as " predetermination " and " physical, or ethical, dualism " in the Dead Sea Scrolls. The place to discuss in detail topics such as these would be rather in a theological journal than in this *Quarterly*. Suffice it therefore to say that in spite of its small volume—merely 60 pages—the book is rich in content and will, even where the author may not offer final solutions, promote the mental penetration of the world we meet in the Dead Sea Scrolls.

At its conclusion Baumbach's study contains an examination of the origin of the *dualism* in the Scrolls.

PAUL WINTER.

Light from the Ancient Past. The Archeological Background of Judaism and Christianity. Second edition. By Jack Finegan. Princeton University Press. London: Oxford University Press. 1960. xxxvii, 638 pp., 204 plates, 6 maps, 4 plans. Price in U.K.: 63*s*.

The first edition of Professor Finegan's book, which appeared in 1946, bore the sub-title " The Archaeological Background of the Hebrew-Christian Religion ". Some reviewers curiously misunderstood the meaning of " Hebrew-Christian "; perhaps it was to prevent more misunderstanding of this kind that the wording of the sub-title has been slightly altered in this new edition.

The new edition represents a considerable expansion of the former one; the work has been increased by about 140 pages, in which more recent excavations and archaeological studies are taken account of. Among new items

included in this edition we notice the Lipitishtar and Eshnunna law-codes, the excavations at Jericho, Hazor and Gibeon, the Brooklyn Museum papyri, and the Dead Sea Scrolls.

About half of the book is devoted to the archaeological background of the Old Testament; the second half deals with the archaeological background of the New Testament and the early Christian centuries. The whole work is a comprehensive and up-to-date introduction to Biblical archaeology, and is to be heartily commended to all who are interested in the subject.

In the new section on the Dead Sea Scrolls Professor Finegan regards as probable the identification of the Qumrān community with an Essene group, or at least a group related to the Essene movement, but he adds: " While the Essenes were also to be found in other places in Palestine, the relatively elaborate character of the main building at Qumrān and the extent of the library even make it possible to suppose that at the time this was a headquarters for the entire movement " (p. 282).

A specially welcome feature of the second edition is an appendix of 46 pages on " The Principles of the Calendar and the Problems of Biblical Chronology ", which pays attention to such new material as Parker and Dubberstein's *Babylon Chronology*, D. J. Wiseman's *Chronicles of Chaldaean Kings* and the evidence for the Qumrān calendar with the work done on it by A. Jaubert and others.

F. F. B.

The New-Old Land of Israel. By Norman Bentwich. George Allen & Unwin Ltd., London. 1960. 161 pp. 18*s*.

Professor Bentwich has written this book in order to give the general reader some account of the archaeological discoveries which have been made in the Holy Land in recent years, on both sides of the frontier. He gives a brief survey of Palestinian archaeology, and then deals successively with Jerusalem and the natural regions into which the land is divided. In addition to archaeological information he has some interesting things to say about the present development of the land. Here and there one may question some judgments which are quoted—*e.g.*, it is doubtful if " the general opinion of the scholars " today would regard Akhenaton as reigning just after the Exodus period (p. 33), and if the Lachish Letters belong to the last siege of the city in the reign of Zedekiah, it is difficult to see how some of them could be part of the evidence on which Uriah, in the reign of Jehoiakim, was convicted of treason (p. 79). In the final chapter, which deals with the Dead Sea discoveries, the view of Professor Driver and Dr. Roth is stated alongside others, and while Professor Bentwich does not commit himself to one view more than another, he suggests as " a possible synthesis " of diverse theories that the settlement at Qumrān " included both religious votaries and others who

combined the martial spirit with piety" (p. 147). The general reader will certainly thank him for a very enjoyable introduction to what is in any case a fascinating subject.

F. F. B.

The Committee have to acknowledge with thanks the following:

American Journal of Archaeology. Vol. 64, No. 2, 3, 1960.

Al Machriq. No. 1. January–February, 1960.

American Journal of Philogy. Vol. LXXXI, No. 1, 1960.

Antiquaries Journal. Vol. XL, No. 1, 2, 1960.

Biblica. Vol. 41, No. 1, 1960. *Amendment* Acknowledgement in January–June, 1960, Quarterly should read Vol. 40, not 49.

Biblical Archaeologist. Vol. XXIII, Nos. 1, 2, 1960.

Bulletin of American Schools of Oriental Research. Nos. 156, 157, 1960.

Expository Times. Vol. LXXI, Nos. 6–10, 1960.

Harvard Theological Review. Vol. LIII, Nos. 1 to 3, 1960.

Israel Exploration Journal. Vol. 9, No. 4, 1959. Vol. 10, No. 1, 1960.

Jewish Quarterly Review. Vol. L, Nos. 1, 2, 1959.

Journal of Biblical Literature. Vol. LXXIX. Part I, 1960.

Journal of Egyptian Archaeology. Vol. 45, December, 1959.

Journal of the Royal Anthropological Institute. Vol. 89, Part II, 1959. Vol. 90, Part 1, 1960.

Journal of Semitic Studies. Vol. V, No. 2, 1960.

Les Institutions de L'Ancien Testament. Tome II.

Mitteilungen des Deutschen Archaeologischen Instituts, Athens. Band 71, 1956.

Nouvelle Revue Theologique. Vol. 82, Nos. 3 to 6, 1960.

Religious and Theological Abstracts. Vol. III, Nos. 1, 2, 1960.

Revue Biblique. 67th year, No. 1, 1960.

Scripture. Vol. XII, Nos. 18, 19, 1960.

Zeitschrift des Deutschen Palästina-Vereins. Vol. 75, No. 2, 1959.

Historical Notes on The Langley Museum.

OBITUARY

JOHN WINTER CROWFOOT

John Crowfoot died at his home at Geldeston on December 6, 1959, at the age of eighty-six, two years after his wife. Palestinian archaeology has thus lost two of its most revered figures.

Crowfoot first came to the Near East when he joined the Egyptian Civil Service in the Department of Education in 1901, and he served in Egypt and the Sudan for twenty-five years. His career was distinguished, culminating with his appointment as Principal of Gordon College, Khartoum, in 1914. His influence here on the developing educational service of the Sudan was great, and the affection of generations of students for both of the Crowfoots bears tribute to the success of his tenure of the position and to the help given by his wife. Both were fluent Arabic-speakers, and their interests extended far beyond both official duties and the district of Khartoum. His services were recognized by the award of the C.B.E. in 1919.

When Crowfoot reached the retiring age for the Sudan Civil Service in 1926, he was far too full of vigour to contemplate a real retirement. He therefore accepted with pleasure the appointment to succeed Professor Garstang as second Director of the British School of Archaeology in Jerusalem. He was new to Palestinian archaeology, but his interest in archaeology was long-established. He had been a student of the British School at Athens, and while in Egypt and the Sudan had kept in touch with archaeological work there, and had been a friend of leading archaeologists such as Petrie and Reisner.

The period was not an easy one in the life of the British School. It had been established in 1919 at the beginning of the British Mandate. In recognition of the fact that the Mandatory power must provide a trained staff to look after the country's important antiquities, the British Government collaborated in setting up the School, and made it an annual grant, the first such grant to be made to a School of Archaeology. The School was in its first years closely associated with the Department of Antiquities, Professor Garstang being Director of both, and the two were housed in the same building. The decision that the Department had developed to the stage that it could stand on its own feet meant that the School lost its building and, in a mistaken Treasury belief that research and training students could be dealt with by the Department, its grant. It was soon apparent that the finances of the School were not adequate to allow it to have a headquarters building in Jerusalem or to provide a proper salary for a Director.

To Crowfoot it fell to run the School under these conditions. He solved the problem by establishing an excellent collaboration with the American School, where the main material asset of the School, its library, was housed,

and which frequently provided hospitality for the Crowfoots and for students. The activities of the School he concentrated on excavations, for which he stimulated the raising of funds from a number of sources. In these ways it was ensured that the School remained an active force in Palestinian archaeology.

The first dig which Crowfoot directed was that on Ophel, probably the site of the original settlement. The area of excavation lay on the western side of the spur, sloping down into the Tyropoeon Valley. The excavations established evidence of the stages in which the level of the Tyropoeon in this area was raised. The most important historical evidence was provided by the uncovering of a very substantial wall and gate that remained in use down to the Maccabaean period, but for which an earlier origin was suggested. The excavations were, however, probably the least satisfactory of those with which Crowfoot was associated. The interpretation of the evidence depended on dirt archaeology and stratification, for which his training had not equipped him, and which he frankly disliked.

It was probably in his excavations at Jerash that he was most happy. These, carried out in collaboration with Yale University, were concerned with the Christian Churches. There, Crowfoot's training in classical archaeology enabled him to make a thorough study of the plan and architectural sequence. The results were published in the Papers of the British School, and established his reputation as a leading authority on the early Christian architecture of the Syro-Palestinian coast. He supplemented his work at Jerash by excavations at the Church at Bosra in Syria. His eminence in the subject was recognized by his invitation to give the Schweich Lectures of the British Academy in 1937.

Undoubtedly the most important, however, of the excavations that he directed, were those at Samaria, where he worked for five seasons between 1931 and 1935. The range of occupation of the site is shown by the title *Samaria-Sebaste* under which the three volumes of the report were published, for as Samaria it was the capital of the Kingdom of Israel and the administrative centre from Assyrian to Hellenistic times, and as Sebaste was an important town in the Roman period. The excavation of the site was a major undertaking, for all the aspects of its history had to be studied, a complicated task in view of the close superimposition of the remains of the successive periods, and a widespread one in view of the area over which important structures spread. Crowfoot was at his best in the study of the fine architectural monuments of the Roman period, such as the Stadium and the Street of Columns, in which Hellenistic, Roman and Oriental features had all to be analysed. He also made an important study of the fragments of fine masonry of the Israelite period. His studies were not, however, confined to architecture, for again his sense of style enabled him to make a major contribution to the art history of Syro-Phoenicia in his analysis of the elements in the art of the ivory carvings which were some of the most interesting finds from the Israelite levels.

The Samaria excavations were moreover a major undertaking in another sense, for it was a Joint Expedition in which a number of bodies collaborated. The original excavations at the site had been carried out on behalf of Harvard University, and Harvard, stimulated by Professor Kirsopp Lake, had taken a major part in initiating the second enterprise. In the British part of the enterprise, the Palestine Exploration Fund and the British Academy were associated with the British School, and to the Americans and British a third element was supplied by the collaboration of the Hebrew University. The organization of such an international scheme, and the directing of the resultant international team, required qualities of leadership of the highest order. All those who took part will agree that these Crowfoot possessed. His firm hand, unlimited tact and equable temperament provided ideal leadership, to which were added the verve and enthusiasm of Mrs. Crowfoot. The dig was a happy one throughout, and all those taking part were conscious that they were sharing in an enterprise of the highest quality. Such a combination is perhaps as good an epitaph as one would give to any leader of an expedition.

Soon after Samaria was completed in 1935, Crowfoot retired from the post of Director of the British School, but not from Palestinian archaeology, for until 1958 he continued to work on the *Samaria-Sebaste* volumes, a task which involved not only his own scholarly work, but the organization (and patient stimulation of the production) of the contributions of his colleagues. He continued for some years to serve the British School as Chairman of the Council, and thereafter until his death he was its President, while from 1945 to 1950 he was the Chairman of the Palestine Exploration Fund.

In September 1959 I visited him at Geldeston to tell him of the plans for the School's projected excavations in Jerusalem. It is one of my happiest recollections of a much loved leader and friend that he was still able to take the keenest interest in the plans of the body he guided so long and so well.

K. M. K.

SIR LEONARD WOOLLEY

The death in February of Sir Leonard Woolley has severed one of the few remaining links with a phase in the history of archaeological discovery of which one has begun to think in the past tense. Perhaps his early association with Arthur Evans, for whom he worked at the Ashmolean in the early years of the century, set him in the direct line of exploration in an epic tradition. Certainly he had, or acquired, much of Evans' purposeful curiosity, and his individual initiative proved sufficient to satisfy it. Unlike Evans he developed at an early age an orientation towards western Asia; and this brought him to seek among the mounds of the Near East the solution to problems whose very existence was only suspected by Evans' generation. From the beginning he showed an instinct for the most promising line of enquiry and developed a great talent for finding the practical means to pursue

it. As a result, over a period of more than forty years, with intervals for service in two World Wars, he was able to remain almost continually in the field, moving from one great archaeological enterprise to another with confidence enhanced by increasing experience.

When in 1912 Woolley went to Carchemish with T. E. Lawrence as his assistant, to resume the excavations which Campbell-Thompson had begun for the British Museum, his status as an archaeologist was already considerable. Apart from the initial qualification known as " Passed R.B.", varied experience in Tripolitania, Egypt and Nubia had taught him the practical side of digging; and he was already soundly based in archaeological method as a result of collaboration with scholars like Randall MacIver, well ahead of their time in this respect. But the digs he had worked on till now were in a sense archaeological by-paths, subsidiary to the broad highway of historical discovery, to which with great satisfaction he now found himself directed. The huge mound at Carchemish, its flanks falling steeply into the ageless tide of the Euphrates, must for him have seemed to represent the first complete and acceptable challenge to his ambition and capabilities. He worked there for two seasons, and a third in 1919 after returning from a Turkish prison-camp in Anatolia. At the end of that time, some of the mound's major secrets were known and Woolley's reputation established.

A first glimpse of this " Hittite " world had indeed already been obtained by the German expedition at Sinjerli twenty years earlier. But since those days, the discovery of the real Hittite capital and its written archives at Boghazköy on the Anatolian plateau had put these Syro-Hittite finds in perspective, and they could be recognized for what they were—relics of a strange hybrid aftermath of Hittite culture, lasting far into the Iron Age. Nevertheless, the sheer quantity of carved reliefs and " Hittite " hieroglyphic inscriptions which Woolley found was more than remarkable, and their value has greatly increased since the recent decipherment of the pictographs. Diminished a little by the adventures which they suffered between 1914 and 1918, the sculptures have now found a safe and beautiful setting in the great *salon* of the Ankara Museum. In addition to excavating the palaces and temples of the Syro-Hittite rulers, Woolley made some attempt to probe the Bronze Age settlements which lay beneath. But in this he was less successful, since little comparative material was yet available for dating purposes and he consequently overstrained the evidence from stratigraphically unrelated cemeteries.

After Carchemish Woolley returned temporarily to Egypt, and like other excavators before and after, found temporary respite in the uncomplicated clearances of eighteenth dynasty buildings at Tell-el-Amarna. It was not until 1922 that he finally confronted the task which, during the next fourteen years, was to make his name deservedly world-famous. He became Director of the so-called " Combined Expedition " (British Museum and University Museum of Pennsylvania) at Ur-of-the-Chaldees.

During the decades which followed, up to his retirement from the field in 1950, some periodical impressions of Woolley's work in the Near East, obtained by a fellow-worker twenty years his junior, may be of some interest. First, there was the little expedition-house at Ur, which one reached from the station at Ur Junction, by walking a mile or so across the uncultivated *chôl*. It was built of stamped bricks from buildings in the *temenos* (and their removal twenty years later to Eridu, where they again served the same purpose, may well confound the conclusions of a later generation). If work were not in progress one would find Woolley, as Gertrude Bell did when she came from Baghdad to make the " division ", in the improvised workshop attached to his antiquities store, where his dexterous experiments in recovery and preservation were often prolonged into the small hours of the morning. Otherwise, and if one belonged to the privileged few who were allowed personal contact, he would emerge smiling from a trench, leaving Hamoudi or one of his sons to solve the problem of wall-tracing with which he had been wrestling. Hamoudi ibn Ibrahim had been his foreman and personal companion since Carchemish days, and remained so until, during Woolley's last expedition in the late nineteen-forties, his duties as a Deputy in the Syrian Mejlis kept him at home. Even then his sons, one of whom served as expedition photographer, loyally reappeared.

In those days the unskilled labour at Ur consisted of undernourished cultivators from the semi-settled tribes in the neighbourhood. But with a nucleus of trained wall-tracers and " knife-men " (the former still using the military entrenching tool), much very delicate work was done and little escaped Woolley's personal attention or that of his able assistants. Methods perfected more recently, such as " compartmentation " to obtain maximum evidence from cross-sections, were of course at the time unknown (and would indeed under the circumstances have been totally impracticable). But one noticed with admiration the meticulous recording of stratigraphical evidence, for instance in the famous Flood Pit and in a dozen minor soundings made as cross-checks. Extreme care and much ingenuity were also applied everywhere to architectural clearances, and the chronology of each building, often greatly complicated, as in the case of the great *ziggurat*, by continual repairs and reconstruction, was disentangled with infinite patience.

The remarkable personal dexterity and resourcefulness which Woolley applied to the task of extraction and preservation in the Royal Tombs is still admired by the most up-to-date technicians. Yet it was characteristic and greatly to his credit that, although the Cemetery was actually discovered in 1922, he did not at the time feel himself qualified to undertake its excavation. His workmen were temporarily withdrawn from that part of the mound and work not resumed until, more than four years later, his own improved knowledge, both of Sumerian archaeology and of local conditions, seemed adequate to the task. The actual quantity and volume of precious objects from these graves must have presented a major problem. Even after shares of them had

been allotted to the two institutions sponsoring the expedition, those remaining were too numerous to be displayed in the Baghdad building recently adopted by Gertude Bell as a museum. One remembers that, in 1929, when the writer first excavated in Iraq, the museum, then in charge of Sidney Smith, was still disinclined to interest itself in more humble finds such as pottery, owing to lack of accommodation. In 1940, ranges of steel drawers in its storerooms were still full of objects from Ur for which display-space could not be found.

In 1934 the excavations at Ur came to an end. But hardly more than a year later Woolley reappeared in the Near East, this time in North Syria at Al-Mina, the old port of Antioch-on-the-Orontes, and was soon to be found surrounded by great piles of painted pottery from its Iron Age warehouses. But this site did not content him for long. In 1936 when a Chicago expedition under Calvin McEwan was excavating at Tell Taynat on the Orontes, Woolley's next move was indicated by the sudden appearance of Hamoudi among the local coffee-shops and by his obvious interest in a large mound on the other side of the Antioch-Aleppo road. This was Tell Atchana, which McEwan had, as it proved, unwisely rejected. Its excavation occupied Woolley for five years, from 1937 to 1939, and again (after his war service in the Civil Affairs Directorate) from 1946 to 1949. His numerous and varied finds have been fully described, first in his popular *Forgotten Kingdom* (1953) and later in the more scientific *Excavations at Atchana-Alalakh* (1955).

The publication of Woolley's work at Ur must at first have seemed a task beyond his own capacity in a single lifetime. Yet at the time of his death no less than five volumes had already appeared, and little now remains which his own notes are not adequate to complete. The most recently published volume *Ur: The Early Periods* (Vol. IV), after so long a delay lacked reconsideration in view of more recent finds and conclusions. But Woolley in his seventies had other preoccupations. Apart from his collection of pictures which had accounted for his spare time throughout his life, there was for instance the UNESCO *World History*, a part of which Sir Julian Huxley persuaded him to take over on the death of Henri Frankfort; and Huxley himself has testified to the efficiency and dispatch with which his share in it was completed.

One's meetings with Woolley over the past ten years, limited as they often were to annually occurring official occasions, always left one full of nostalgic admiration for the generation to which he rightly belonged. They were a versatile people whose enviable scholarship was tempered by a combination of urbanity and unexpected practical ability. In Woolley's case all this was perhaps less significant than his capacity for simple friendship.

SETON LLOYD.

ANNUAL GENERAL MEETING, 1960

The 94th Annual General Meeting of the Palestine Exploration Fund was held at 2 Hinde Street, Manchester Square, London, W.1, on Wednesday, June 29, 1960, at 5.45 p.m. (Canon C. B. Mortlock in the Chair).

The Minutes of the 93rd Annual General Meeting were read, approved and signed.

The Chairman in his report stated that it had been an uneventful year. One lecture had been given by M. Jean Perrot, Director of the French Archaeological Mission in Israel, whose subject was "Eight Seasons' Excavations at Beersheba", illustrated by excellent slides.

The Chairman congratulated Dr. Kathleen Kenyon on the publication of *Jericho I* and of *Archaeology in the Holy Land*. He also complimented Professor Bruce on maintaining the high standard of the *Quarterly*, and mentioned Miss Tufnell's initiative in introducing young people to the membership, and in organising a series of lectures for next autumn and winter.

During the past year, the Fund had lost by death one of its most distinguished members, Dr. J. W. Crowfoot, who would be remembered for his excavations at Ophel and Samaria. He was chairman of the Executive Committee from June, 1945, to January, 1950. Death or resignation had also removed 17 members of the Fund, among them Canon C. L. H. Powell and Mrs. A. C. Trott, both members for some years. Thirty-three new members had joined, bringing the membership total to 310.

The Chairman noted that the Fund's finances were sound and that a steady income continued to derive from sales of back numbers of the *Quarterly* to libraries and institutions overseas, and from *Samaria-Sebaste III* and other of the Fund's publications.

The Hon. Treasurer, Mr. Oliver Thompson, then presented the accounts for the year ended December 31, 1959.

He said that the financial position of the Fund was satisfactory. The cost of *Samaria-Sebaste III* having been dealt with in previous years, the large income derived from sales in 1959 had contributed to the £1,400 excess of income over expenditure shewn in the accounts. The Committee proposed that surplus funds be utilized as follows:—

(*a*) £750 be transferred to the Archaeological Research Account, from which a further £100 be alloted to excavations at Jericho, and £300 to Mr. Peter Parr and Miss Kirkbride for further excavations in Southern Palestine.

(*b*) £500 be transferred to a maintenance fund for the upkeep of the premises at 2 Hinde Street.

Mr. Fitzgerald asked whether the sum shewn under "Sale of Publications" was mainly due to sales of *Samaria-Sebaste III.*

The Hon. Treasurer agreed, but added that income from sales of other publications continued at much the same level as in previous years and would be stimulated by the new publication, *Jericho I.*

There being no further questions, the adoption of the Accounts was moved by the Treasurer and seconded by Dr. Diringer, and approved by the meeting.

Election of Officers.—The Chairman reported that Mr. Hamilton was unable to stand for re-election. Other members of the Committee were willing to stand again. Their re-election was put to the meeting and approved unanimously.

Auditors.—At the proposal of the Hon. Treasurer, seconded by Dr. Diringer, Messrs. Turquand Youngs were re-appointed auditors of the Palestine Exploration Fund.

There being no further business, the meeting closed.

The Chair was then taken by Dr. D. B. Harden, O.B.E., M.A., Ph.D., F.S.A., F.M.A., who introduced the lecturer—Dr. R. D. Barnett, D. Litt., F.S.A., and his subject ,"The Phoenicians and the Bible".

At the close of the lecture, Canon Mortlock proposed a vote of thanks both to the Chairman and to the lecturer, which was accorded with enthusiasm.

1958		£ s. d.	£ s. d.
	Capital:		
	Authorised—200 Shares of £1 each	200 0 0	
—	Issued—9 shares of £1 each, not called ..	—	
			—
	Surplus of Assets over Liabilities:		
	(Excluding donated property)		
3,510	Amount as per last Balance Sheet	3,097 11 8	
	Less: Grant for Samaria wrongly included in		
250	Income in 1957	—	
3,260		3,097 11 8	
	Add: Excess of Income over Expenditure for		
437	year	1,443 5 9	
3,697		4,540 17 5	
	Deduct:		
100	Amount written off Investments	—	
500	Transfer to—Research Account	750 0 0	
—	Maintenance Fund	500 0 0	
3,097			3,290 17 5
	Research Account:		
—	Balance at 31st December, 1958	150 0 0	
500	Transfer from Surplus of Assets over Liabilities	750 0 0	
		900 0 0	
	Less: Provision for proposed contribution to publication		
350	cost of the Jericho Reports .. £100 0 0		
	Provision for Grant towards Excavation at Petra and		
—	Beidha 300 0 0		
		400 0 0	
150			500 0 0
	Maintenance Fund:		
—	Transfer from Surplus of Assets over Liabilities		500 0 0
	Provisions and Current Liabilities:		
—	Provision re Grant towards Excavations ..	300 0 0	
350	Provision re Jericho Reports	450 0 0	
17	Sundry Creditors for Current Expenses ..	301 15 10	
153	Subscriptions in advance	124 1 1	
520			1,175 16 11
			£5,466 14 4
£3,767			

NOTES:—

1. £105 has been included in Salaries in respect of remuneration to a member of the executive committee.
2. No value has been placed on the stock of Samaria-Sebaste Vol. III.

1958		£ s. d.	£ s. d.
£			
	Fixed Assets:		
	Freehold Property—Donated:		
	No. 2, Hinde Street (estimated value		
—	£5,000)		—
	Alterations and Improvements:		
	No. 2, Hinde Street, at net book value,		
1,189	1st July, 1948		1,188 17 5
	Museum, Library and Storeroom, Fixtures,		
	Fittings, Furniture, etc., at net book value,		
382	1st July, 1948		382 2 7
	Typewriter at cost	68 10 0	
	Less: Depreciation to date	7 10 0	
2			61 0 0
	Projector at cost	41 13 0	
	Less: Depreciation	12 13 0	
33			29 0 0
	Otzar Hityashvuth Hayehudim B.M. Israeli		
	£250 Ordinary Stock (Registered)		
—	Donated		—
	Jewish Colonial Trust—Donated—50 Ordin-		
—	ary Shares of 2s. 6d. each, fully paid ..		—
1,606			1,661 0 0
	Current Assets:		
6	Subscriptions in arrear	—	
	Investments—Post Office Issue—at cost or		
	under:—		
	£374 12s. 0d. 3½% Conversion Loan, £		
	1961 or after 300		
	£50 3% Savings Bonds, 1955/65 .. 50		
	£264 1. 8d. 2½% Savings Bonds,		
	1964/67 250		
	£300 3½% Defence Bonds 300		
900	(Market Value £816) (1958 £817) —	900 0 0	
229	Sundry Debtors	148 5 8	
897	Cash at Bank on Current Account and in hand	1,627 6 6	
101	Cash at Bank on Deposit Account	1,101 0 0	
28	Cash on Deposit—Post Office Savings Bank	29 2 2	
			3,805 14 4
£3,767			£5,466 14 4

AUDITORS' REPORT TO THE MEMBERS OF THE PALESTINE EXPLORATION FUND.

We have examined the above Balance Sheet and annexed Income and Expenditure Account which are in agreement with the books of account and have obtained all the information and explanations which we considered necessary for our audit. In our opinion, proper books of account have been kept.

In our opinion and to the best of our information and according to the explanations given to us the said accounts, read in conjunction with the notes, comply with the requirements of the Companies Act, 1948, and give a true and fair view of the state of the Fund's affairs at 31st December, 1959, and of the excess of Income over Expenditure for the year ended on that date.

19, Coleman Street, London, E.C.2.
13th May, 1960.

TURQUAND, YOUNGS & CO.,
Chartered Accountants.

THE PALESTINE EXPLORATION FUND

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1959

1958		£ s. d.	£ s. d.
£			
693	Printing—Quarterly	653 8 1	
73	Miscellaneous	99 14 10	
766		753 2 11	
60	*Less:* Contribution by British School of Archaeology in Jerusalem	60 0 0	
706			693 2 11
610	Salaries, Wages and Pensions (see note 1)		610 4 0
44	Repairs		14 14 1
10	Insurance		25 19 6
79	Rates		78 12 2
62	Lighting, Heating and Cleaning		49 0 3
65	Postage and Telephone		86 3 10
51	Stationery and Sundries		44 18 9
11	Audit Fee		10 10 0
6	Depreciation on Typewriter		6 0 0
4	Depreciation on Projector		4 0 0
96	Loss on Samaria-Sebaste—Vol. III		—
437	Balance being excess of Income over Expenditure		1,443 5 9
£2,181			£3,066 11 3

1958		£ s. d.	£ s. d.
£			
824	Subscriptions and Donations including local societies		888 18 0
250	Nuffield Grant toward cost of quarterly		250 0 0
—	Refund of Income Tax on Covenanted Subscriptions (2 years)		144 14 0
315	Sales of Publications		1,007 4 7
725	Rents		725 0 0
	Dividends Received—Gross:—		
	On £374 12s. 0d. 3½% Conversion Loan	13 2 2	
	,, £50 3% Savings Bonds, 1955/65	1 10 0	
	,, £264 1s. 8d. 2½% Savings Bonds, 1964/67	6 12 0	
	,, £300 3½% Defence Bonds	10 10 0	
	,, Israeli £250 Otzav Hityashvuth Hayehudim B.M. Ordinary Stock	1 8 1	
35		33 2 3	
31	Interest received on Bank Deposit Account	16 18 5	
1	Interest on Post Office Savings Bank Deposit Account	14 0	
			50 14 8
£2,181			£3,066 11 3

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